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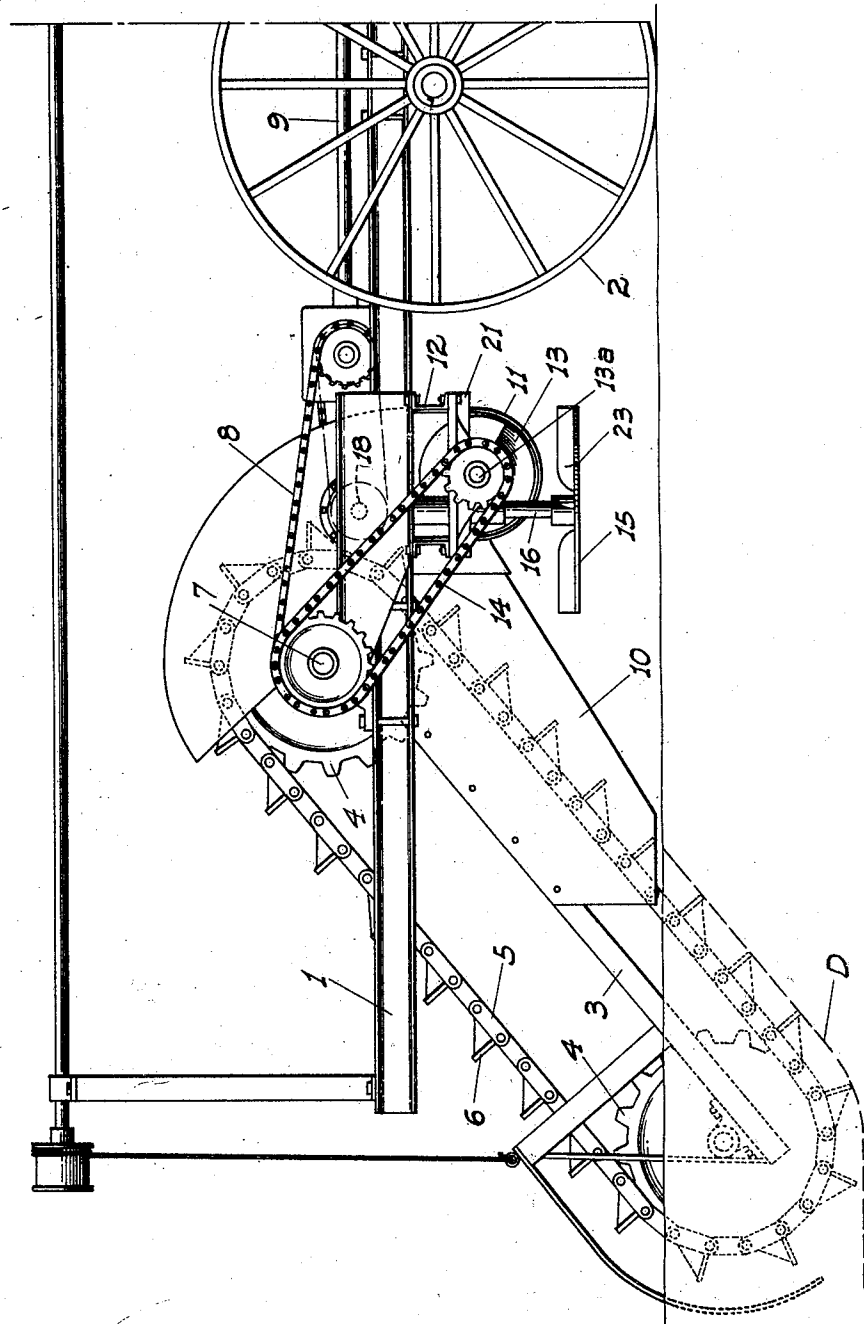
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DIRT SPREADER FOR DITCHING MACHINES

Filed March 19, 1929

2 Sheets-Sheet 1

Fig. 1



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Fig. 2

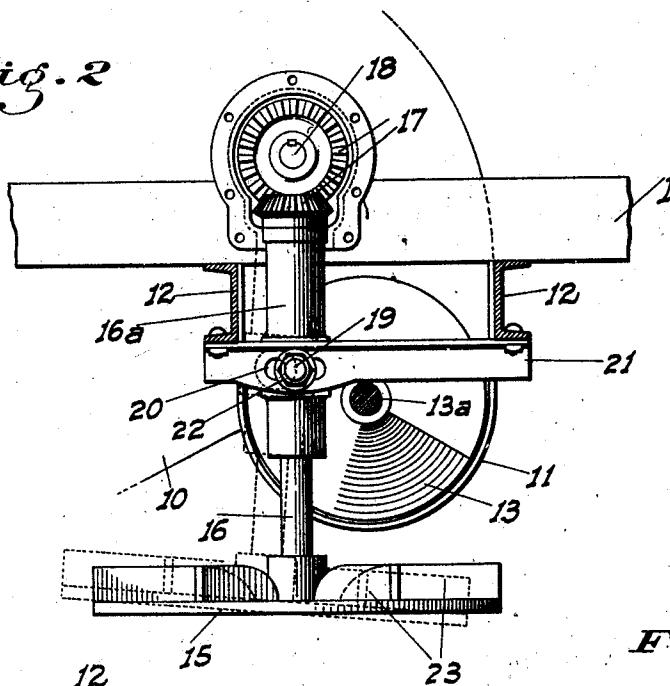
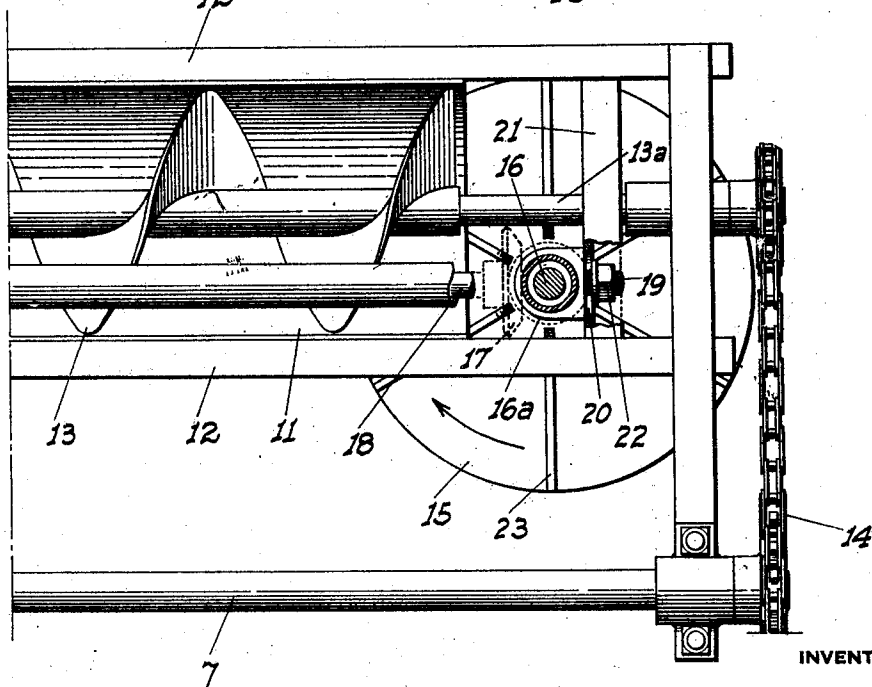


Fig. 3



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DIRT SPREADER FOR DITCHING MACHINES

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This invention relates to ditching machines, and especially to machines of that character used to cut irrigation ditches or laterals across cultivated land; and particularly relates to the means for disposing of the dirt excavated from the ditch.

As such machines are at present constructed the dirt as excavated by the digging mechanism is conveyed laterally and deposited in the shape of one or more windrows which of course are parallel to the ditch and are formed as the machine advances. Since such dirt is in the way of subsequent cultivating and other operations it is customary and necessary to employ a leveling device of some character to go over the ground subsequent to the ditching operations and level down these windrows. This additional operation of course adds appreciably to the total cost of preparing the ground.

The principal object of my invention therefore is to avoid the need of this extra operation by providing an attachment or a ditching machine of such a nature as to catch the dirt before the same is discharged onto the ground by the conveyor and to cause such dirt to be spread over the ground in the vicinity of the ditch but clear of the same in the form of a thin evenly distributed layer, so that no further working of the dirt is necessary after the ditching machine has functioned and passed by.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a fragmentary side elevation of a ditching machine of standard or conventional form showing my dirt spreading device attached thereto.

Fig. 2 is an end view of a ditching machine conveyor, showing the mounting of the dirt spreading device in connection therewith.

Fig. 3 is a fragmentary top plan view of the conveyor showing the position of the spreader relative thereto.

Referring now more particularly to the characters of reference on the drawings, the ditch digging machine may be of any conventional standard design, and includes a main horizontal frame structure 1 supported by wheels 2 and carrying the power plant (not shown) which as usual drives the ditching apparatus and advances the machine as a whole. The digging apparatus consists essentially of an auxiliary frame 3 pivotally mounted on and depending rearwardly from the frame 1 for vertical adjustment and carrying spaced sprocket wheels 4 over which the endless digging chain 5 passes. This chain has outwardly projecting transverse digging plates 6 at intervals to engage the dirt and form the ditch D when the auxiliary frame is lowered to its operating position. The shaft 7 of the upper sprocket wheel is driven in a direction such that the lower run of the chain will travel upwardly by suitable means such as a chain drive 8 operated from a shaft 9 extending forwardly to and driven by the power plant.

The dirt as excavated from the ditch by the digger chain is conveyed into a chute 10 from which it is delivered into a transversely extending trough 11 supported by transverse beams 12 connected to the frame 1. The trough preferably extends equal distances on both sides of the machine and is open on both ends, and contains an auger conveyor 13 or the like arranged to convey the dirt as delivered thereto from the chute 10 to the outer ends of said trough. This conveyor is driven from the shaft 7 by a chain drive 14 or the like between said shaft and the outer end of the conveyor shaft 13^a. The structure thus far described is standard in one form or another and of itself forms no part of my invention, which will now be particularly described.

Positioned under each end of the trough is a horizontal disc 15, the axis of which is disposed a short distance rearwardly of the longitudinal center line of the conveyor and outwardly of the adjacent open end of the

trough, as clearly shown in Fig. 3. This disc is of a size sufficient to catch all dirt as discharged from the trough by the operation of the conveyor. The axial shaft 16 of this disc projects upwardly therefrom to a point above the top of the trough and is there connected by a housed-in bevel drive 17 to the transverse driven shaft 18 which is operatively connected with the main drive shaft 9 in any suitable manner.

The type of drive connection between the shafts 16 and 18 allows the former to be swung fore and aft of the machine about said shaft 18 as an axis, so that the angle of setting of the disc relative to a horizontal plane may be altered as may be desired, as indicated in dotted lines, in Fig. 2.

This is a beneficial though not an absolutely necessary feature, and by reason of the same the height to which the dirt will be thrown with the rotation of the disc, and consequently its range of spread relative to the machine, may be controlled within certain limits, as will be evident. To hold the disc shaft set at any desired position, the housing 16^a of the shaft 16 has a stud 19 projecting transversely therefrom, which stud projects through a slot 20 disposed arcuate with the shaft 18. This slot is formed in a plate 21 which extends between and is fixed on the under sides of the beam 12; and the housing 16^a is clamped against said plate by a nut 22 on the stud on the side of the plate opposite the housing.

The upper surface of the disc is provided with a plurality of substantially radial vanes 23; the disc being connected in driving relation with the power plant so as to rotate at considerable speed and in a direction such that its outer side will turn rearwardly. It will therefore be seen that the dirt deposited on the disc from the conveyor is caught by the vanes and thrown outwardly and horizontally over the adjacent dirt in the form of an evenly distributed and thin layer.

Due to the direction of rotation and the axial positioning of the disc rearwardly of the center line of the conveyor, the dirt is all caught by the forward portion of the disc and thrown outwardly from the conveyor, thus preventing any dirt from being thrown under the machine and into the ditch where it is of course not wanted.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what

I claim as new and useful and desire to secure by Letters Patent is:

1. In a ditching machine having excavating means, and conveying means cooperating therewith to convey the dirt as excavated away from the excavation; said conveyor being arranged to discharge the dirt from its outer end, a rotary disc mounted on a substantially vertical axis under the discharge end of the conveyor in a position to receive the dirt as discharged from the conveyor, dirt engaging elements projecting upwardly from the disc and means supporting the disc in a manner to enable the angle of the same relative to a horizontal plane to be altered at will.

2. In a ditching machine having excavating means, and conveying means cooperating therewith to convey the dirt as excavated away from the excavation and extending transversely of the line of excavation, said conveyor being arranged to discharge at its outer end, a vertical shaft positioned rearwardly of the longitudinal center line of the conveyor and outwardly of the outer end of the conveyor, a disc on the shaft under the conveyor to catch the dirt discharged therefrom, radial dirt engaging vanes projecting upwardly from the disc, and means for rotating the shaft in a direction to cause the outer side of the disc to rotate to the rear.

In testimony whereof I affix my signature.

GORDON F. SCHECKLER.