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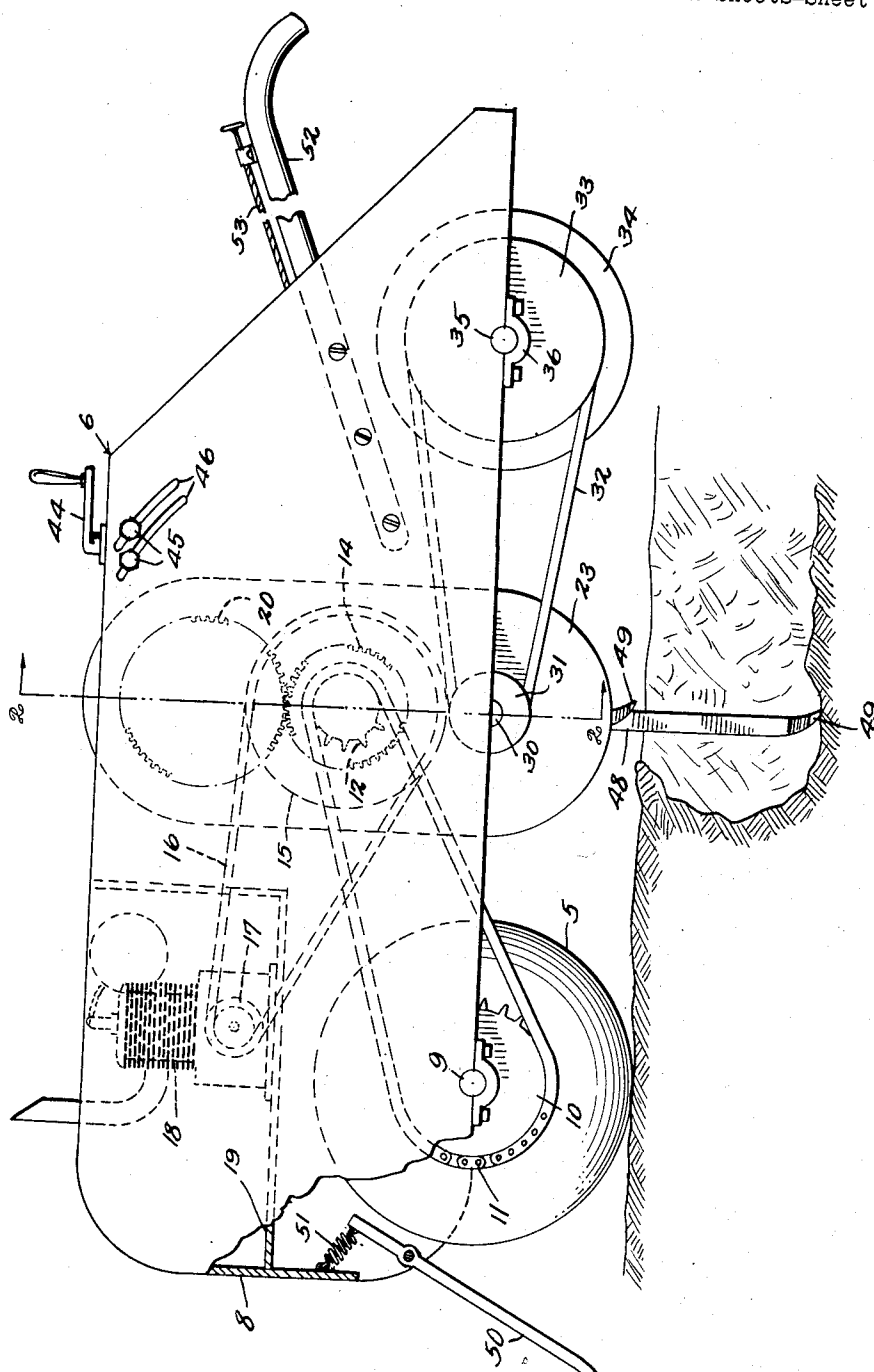
G. A. BURR

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PIVOTED BLADE CULTIVATOR

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2 Sheets-Sheet 1



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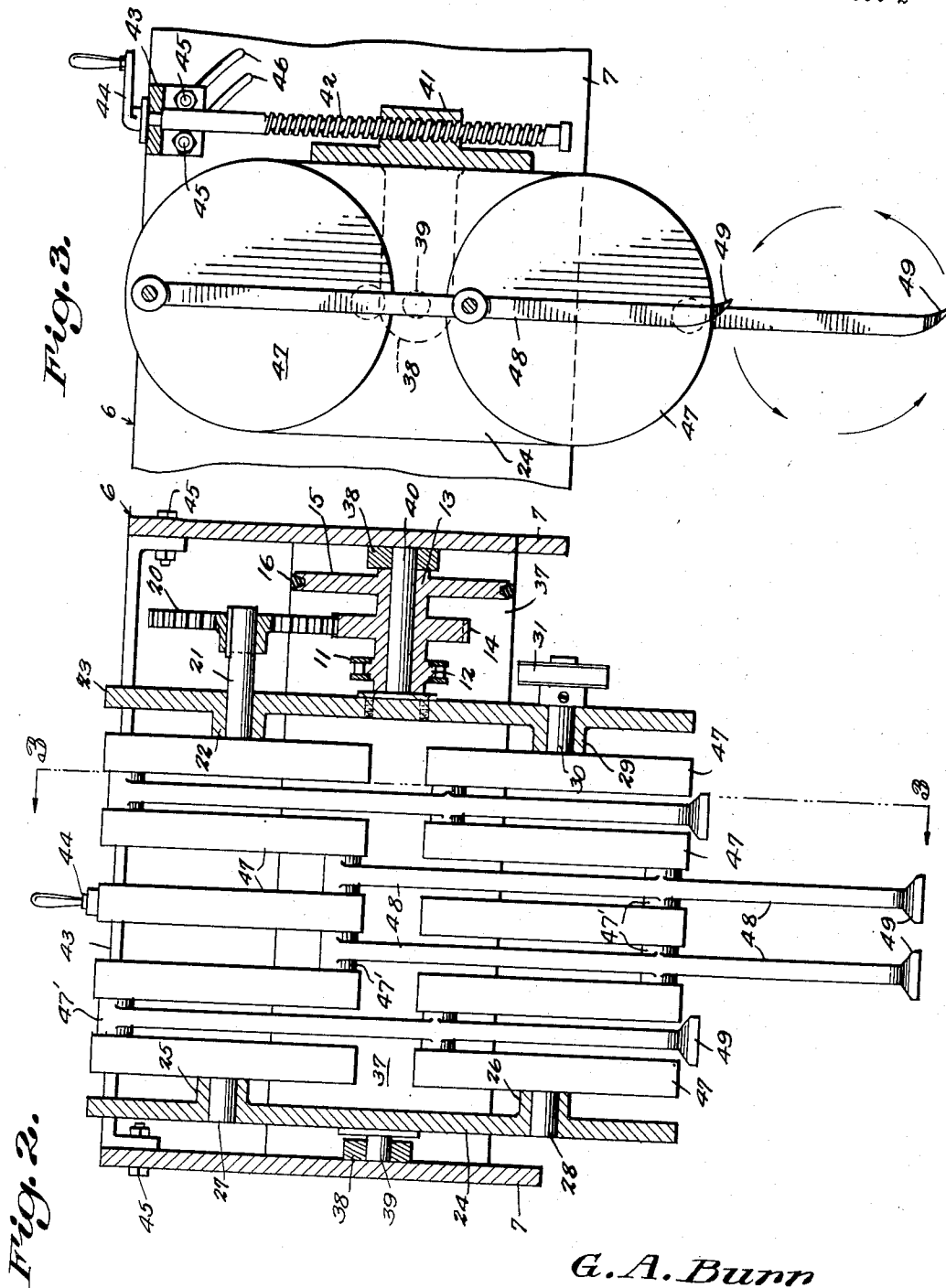
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PIVOTED BLADE CULTIVATOR

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1 Claim. (Cl. 97—36)

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This invention relates to cultivator construction of the type embodying a plurality of pivoted blades so constructed and operated that during the operation of the cultivator to condition the ground surface or soil for planting purposes, the blades will operate with a movement simulating the movements of a hoe in the hands of a person operating a hoe.

An important object of the invention is to provide a cultivator having mechanical means for operating the pivoted blades thereof, wherein the operating angles of the blades may be adjusted to meet various requirements of use.

Still another object of the invention is to provide a cultivator having means for spreading the soil, after the soil has been loosened or cultivated by the blades of the cultivator.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings:

Figure 1 is a side elevational view of a cultivator constructed in accordance with the invention.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Referring to the drawings in detail, the frame of the cultivator which is supported by means of the wheels 5, is indicated by the reference character 6.

The frame of the cultivator comprises wide side plates 7 connected at their forward ends by the plates 8.

The wheels 5 are mounted on the axle 9 on which the wheels 5 operate, there being provided a sprocket 10 attached to the side of one of the wheels, over which the chain 11 operates, the chain 11 also operating over the sprocket 12 secured at one end of the hollow shaft 13, of which the gear 14 forms a part.

The pulley 15 which is substantially large, is also formed integral with the hollow shaft 13, which pulley provides the power pulley of the mechanism, and is operated by means of the belt 16 which operates thereover, the belt 16 also operating over the pulley 17 which is operated by means of the internal combustion engine 18

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mounted on the platform 19 forming a part of the tractor.

Meshing with the gear 14 is a substantially large gear 20 which is secured to one end of the shaft 21 which operates in the bearing 22 of the side plate 23 of the auxiliary frame of the machine, in which the earth working tools are mounted.

This auxiliary frame also includes the side plate 24 at the opposite side of the frame, the plate 24 having bearings 25 and 26 in which the shafts 27 and 28 respectively operate.

The plate 23 is also provided with a bearing 29 in which the shaft 30 operates, the shaft 30 being supplied with the pulley 31, over which the belt 32 operates, the belt 32 also operating over the pulley 33 secured at one end of the soil spreading drum 34, operating on the shaft 35 that is supported in the bearings 36 secured to the lower edges of the side plates 7 of the main frame of the machine. As shown, this soil spreading drum 34 normally operates in a plane above the ground surface so that the soil or earth thrown rearwardly by the earth working tools, to be hereinafter more fully described, would evenly spread.

The auxiliary frame includes a rear plate 37 to which the forwardly extended arms 38 are secured, the arms 38 having bearings in which the shafts 39 and 40 are positioned.

The shaft 40 provides a support for the hollow shaft 13, which rotates thereon.

The shafts 39 and 40 provide supports for the auxiliary frame and permit the auxiliary frame to pivot in a horizontal plane.

Disposed under the rear surface of the plate 37 and formed integral therewith, is an internally threaded enlargement 41 in which the threaded shaft 42 operates, the shaft 42 extending through and opening in the bar 43 secured to the inner surfaces of the side plates 7 of the main frame, the shaft 42 being provided with a crank handle 44 at its upper end whereby rotation of the shaft 42 will cause a tilting of the auxiliary frame. In order to permit of such swinging movement of the auxiliary frame the bolts 45 which secure the bar 43 in position, move in the elongated arcuate shaped openings 46. It will of course, be understood that these bolts are loosened so that this movement may take place, and that after the proper adjustment has been made, the bolts may be tightened to hold the auxiliary frame in its adjusted position.

Supported between the side plates 23 and 24 of the auxiliary frame, are upper and lower sets of

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crank disks 47 the adjacent crank disks of each set being connected by shafts 47' eccentrically connected to the crank disks and to which the arms 48 of the earth working tools are connected, the connection between the crank disks and the arms of the earth working tools being such that when the outer earth working tools of the sets are elevated, the inner set of earth working tools will be contacting the ground surface. Blades 49 are provided on the free ends of the arms of the earth working tools and are constructed to simulate hoes so that in operation, the arms and blades 49 will contact the ground surface with a digging action simulating the action of a hoe in the hands of a person using a hoe. At the forward end of the machine, are pivoted arms 50 that are normally held in their operative positions by the coiled springs 51 engaging the upper ends of the arms 50. The lower front ends of these arms are curved to move over weeds or high grass pressing the weeds or high grass downwardly against the ground surface as the machine moves thereover.

Handles 52 extend rearwardly from the machine and afford means whereby an operator may control and guide the operations of the machine. An engine control rod 53 is mounted on the handles and may be readily operated by the attendant of the cultivator.

From the foregoing it will be seen that when the machine is in operation, the earth working tools will be swung in a manner simulating the action of a hoe to cut into the ground surface and cultivate the surface for planting purposes.

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Having thus described the invention, what is claimed is:

In a cultivator, a main wheel supported frame, an auxiliary pivoted frame mounted within the wheel supported frame for rotation within the supporting frame, crank disks mounted within the auxiliary frame arranged in upper and lower groups, crank shafts connecting the adjacent crank disks, said crank shafts being eccentrically connected with said disks, earth working tools including arms mounted on the adjacent crank shafts of the upper and lower groups of disks, gearing supported between said frames operating said disks, and tools connected with said disks, a threaded enlargement secured to the auxiliary frame, a vertical threaded shaft operating through the threaded enlargement, means mounting said vertical threaded shaft for arcuate movement on the main wheel supported frame, and a crank handle effecting rotation of the threaded shaft in the threaded enlargement rotating said pivoted frame in the arc of a circle, adjusting the angle of operation of the earth working tools carried thereby.

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