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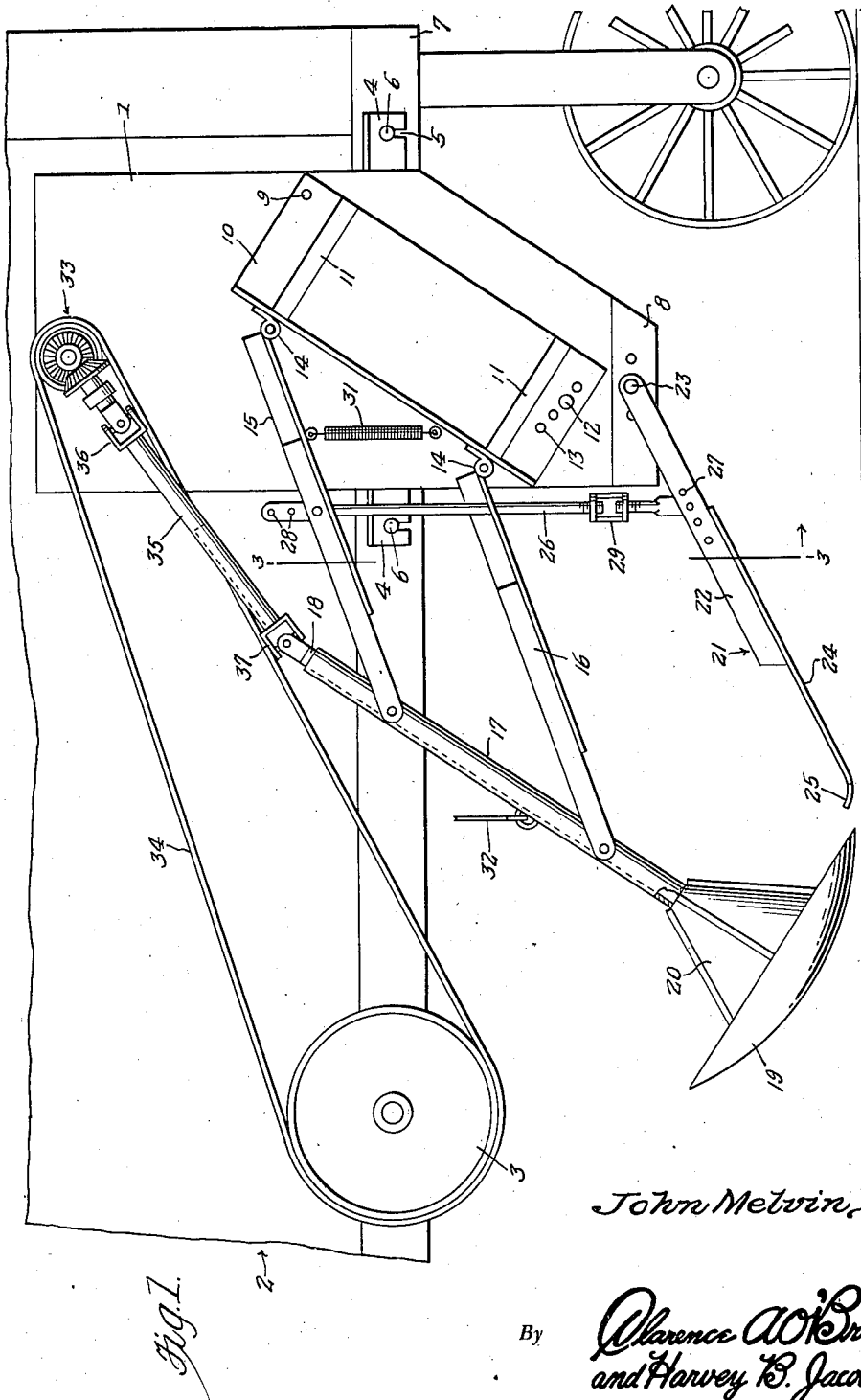
J. M. BECK

2,337,307

BEET TOPPING MACHINE

Filed Nov. 16, 1942

2 Sheets-Sheet 1



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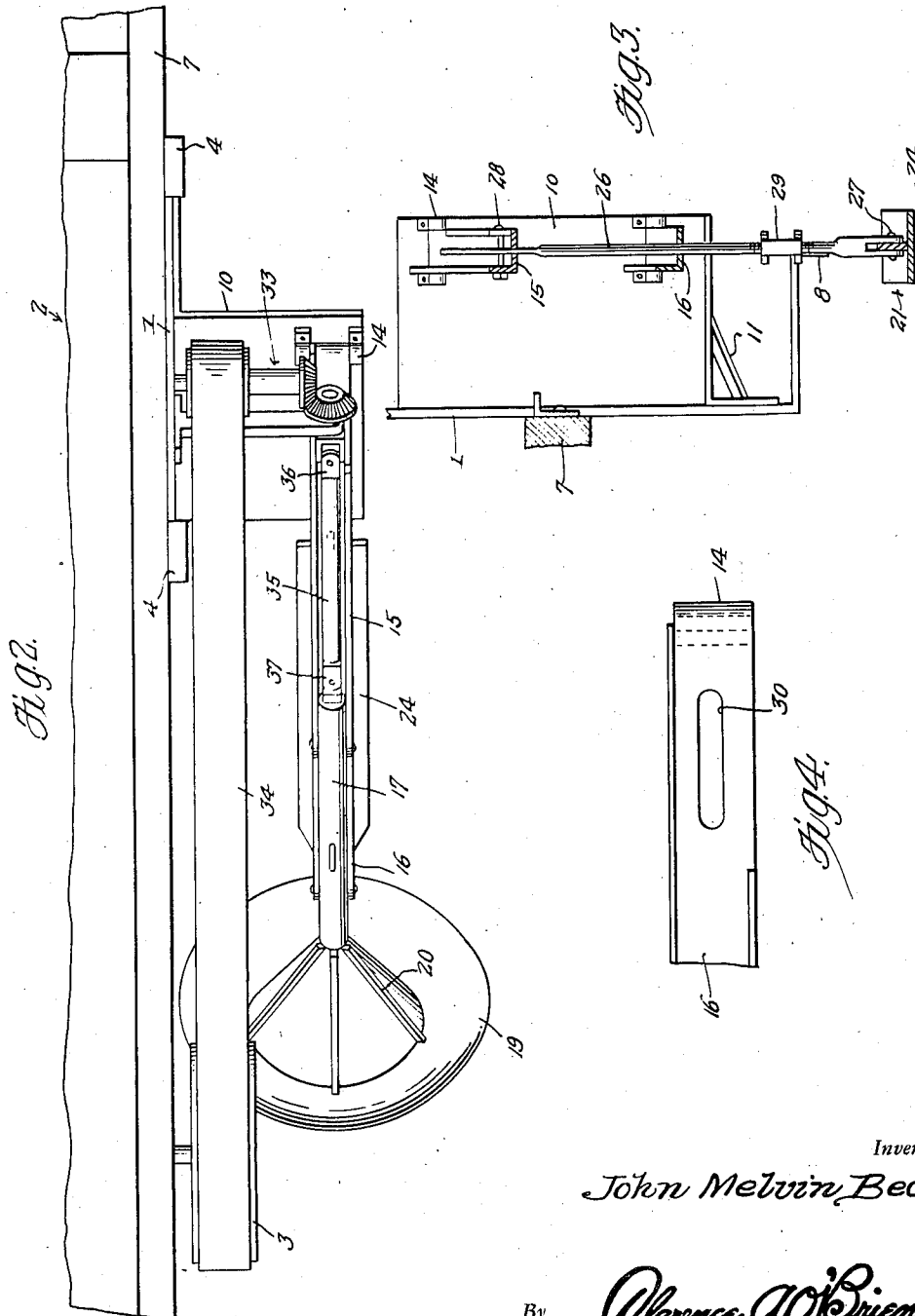
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UNITED STATES PATENT OFFICE

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BEET TOPPING MACHINE

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Application November 16, 1942, Serial No. 465,761

4 Claims. (Cl. 55-107)

The present invention relates to new and useful improvements in beet topping machines of a generally similar nature to that constituting the subject matter of my co-pending application, Serial No. 383,207, filed on March 13, 1941.

An important object of the present invention is to provide a beet topping apparatus which is adapted to be expeditiously mounted as a unit on one side of a conventional tractor for operation from the usual power take off thereof, without the necessity of making material structural alterations in said tractor.

Another very important object of the invention is to provide a beet topping machine of the aforementioned character comprising a novel construction and arrangement whereby the device may be expeditiously adjusted or regulated to meet various conditions.

Other objects of the invention are to provide a beet topping machine of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein—

Figure 1 is a view in side elevation of a beet topping machine constructed in accordance with the present invention, showing the device mounted in position on a tractor.

Figure 2 is a top plan view thereof.

Figure 3 is a cross sectional view, taken substantially on the line 3—3 of Figure 1.

Figure 4 is a detail view in top plan of a portion of one of the parallel arms.

Referring now to the drawings in detail, it will be seen that the embodiment of the present invention which has been illustrated comprises a vertical plate 1 of suitable metal which is removably mounted on one side of a tractor 2 forwardly of the usual side power take off 3 thereof. Toward this end, the plate 1 has fixed thereon, at an intermediate point, angle iron brackets 4 which project horizontally from the vertical edges of said plate. The brackets 4 have formed in their lower edges notches or slots 5 for the reception of headed pins or bolts 6 on the frame 7 of the tractor 2. The plate 1 includes a laterally offset lower end portion 8.

Pivotally mounted for swinging adjustment in

a vertical plane on the outer side of the plate 1, as at 9, is an inclined bracket 10 of angular cross section. The bracket 10 comprises braces 11. A bolt 12 secures the lower end portion of the bracket 10 in adjusted position on the plate 1, the lower end portion of said bracket having a series of openings 13 therein for the reception of said bolt.

Hingedly mounted, as at 14, for swinging movement in a vertical plane on the bracket 10 are upper and lower parallel arms 15 and 16, respectively. A tubular housing 17 is pivotally mounted on the free ends of the arms 15 and 16 in parallelism with the inclined bracket 10. Journaled in the tubular housing 17 is a shaft 18. A concavo-convex topping disk 19 is fixed on the lower end portion of the shaft 18. A substantially conical shield 20 rises from the disk 19.

Mounted for vertical swinging movement on the lower portion of the plate 1 is a gauge 21 for controlling the depth of the cut of the disk 19 in the beets. The gauge 21 comprises an arm 22 which is pivotally and adjustably connected at 23 to the offset portion 8 of the plate 1. Projecting from the free end portion of the arm 22 is a shoe 24 which is adapted to ride over the beets, said shoe including an upturned rear end portion 25.

A rod 26 operatively connects the arm 15 to the gauge 21 for raising and lowering the topping disk 19. One end of the rod 26 is adjustably connected at 27 to the arm 22. The other end portion of the rod 26 is adjustably connected at 28 to the arm 15 at an intermediate point. The rod 26 has interposed therein a turnbuckle 29 for adjustment. A longitudinal slot 30 (see Figure 4) in the lower arm 16 accommodates the rod 26. A coil spring 31 has one end connected to the bracket 10 and its other end connected to the arm 15 for yieldingly resisting upward swinging movement thereof. A cable 32 is connected to the tubular housing 17 for elevating the apparatus to inoperative position through the medium of the usual power lift of the tractor.

Mounted on the upper portion of the plate 1 is a drive unit 33 which is actuated from the tractor power take-off 3 by an endless belt 34. A telescopically extensible shaft 35 connects the shaft 18 to the unit 33 for actuation thereby, this drive including universal joints 36 and 37.

It is thought that the operation of the machine will be readily apparent from a consideration of the foregoing. Briefly, as the tractor 2 moves forwardly, the shoe 24 of the gauge 21 rides over the tops of the row of beets just in front of the disk

19. As the gauge 21 rises and falls the disk 19 is raised and lowered for cutting the beets at the correct depth through the rod 26, the arm 15, the tubular housing 17, etc. During this operation, the tubular housing 17 remains parallel with the bracket 10 and the angle of the topping disk 19 does not change. That is, the disk 19 cuts at the same angle regardless of its vertical position. The substantially conical shield 20 prevents the beet tops from accumulating on the disk 19 and causes said tops to be thrown out of the path of the usual plow behind the tractor which lifts the beets out of the ground. The construction and arrangement is such that the gauge 21 may be expeditiously and accurately adjusted relative to the topping disk 19.

It is believed that the many advantages of a beet topping machine constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. A beet topping machine of the character described comprising upper and lower parallel arms hingedly mounted for swinging movement in a vertical plane on a tractor, a shaft rotatably mounted on the arms, a topping disk fixed on said shaft, a gauge pivotally mounted for swinging movement in a vertical plane on the tractor and adapted to travel across the beets, and a rod operatively connecting one of the arms to the gauge for raising and lowering the topping disk with said gauge.

2. A beet topping machine comprising a vertical plate mounted on one side of a tractor, a pair of upper and lower parallel arms hingedly mounted on the plate for swinging movement in a vertical plane, a tubular housing pivotally mounted on the free ends of said arms, a shaft

5 journaled in the housing, a topping disk fixed on one end portion of said shaft, a gauge, engageable with and operable by the beets to be topped, hingedly mounted on the plate, means operatively connecting the disk to the gauge for raising and lowering thereby, and means for actuating the shaft for rotating the disk.

3. A beet topping machine comprising a vertical plate, means for removably securing said plate on one side of a tractor, a bracket mounted for swinging adjustment in a vertical plane on the plate, upper and lower parallel arms hingedly mounted on the bracket for swinging movement in a vertical plane, a tubular housing pivotally mounted on the free ends of said arms, a shaft journaled in said housing, a topping disk fixed on one end portion of said shaft, a gauge, engageable with and operable by the beets to be topped, pivotally mounted on the lower portion of the plate, a rod operatively connecting one of the arms to said gauge for raising and lowering the disk with said gauge, and means on the plate for operatively connecting the shaft to the power take-off of the tractor for actuation thereby.

4. A beet topping machine comprising a vertical plate, brackets projecting horizontally from the plate at an intermediate point, said brackets having notches extending upwardly therein for the reception of supporting elements for removably mounting the plate on a tractor, a bracket of angular cross section pivotally mounted for swinging adjustment in a vertical plane on the plate, upper and lower parallel arms hingedly mounted for swinging movement in a vertical plane on said brackets, a tube pivotally mounted on the free ends of said arms, a shaft journaled in said tube, a topping disk fixed on one end portion of the shaft, a gauge, engageable with and operable by the beets to be topped, pivotally mounted on the plate and operatively connected to the disk for raising and lowering the same, and a drive unit on the plate operatively connected to the shaft.

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