

No. 762,390.

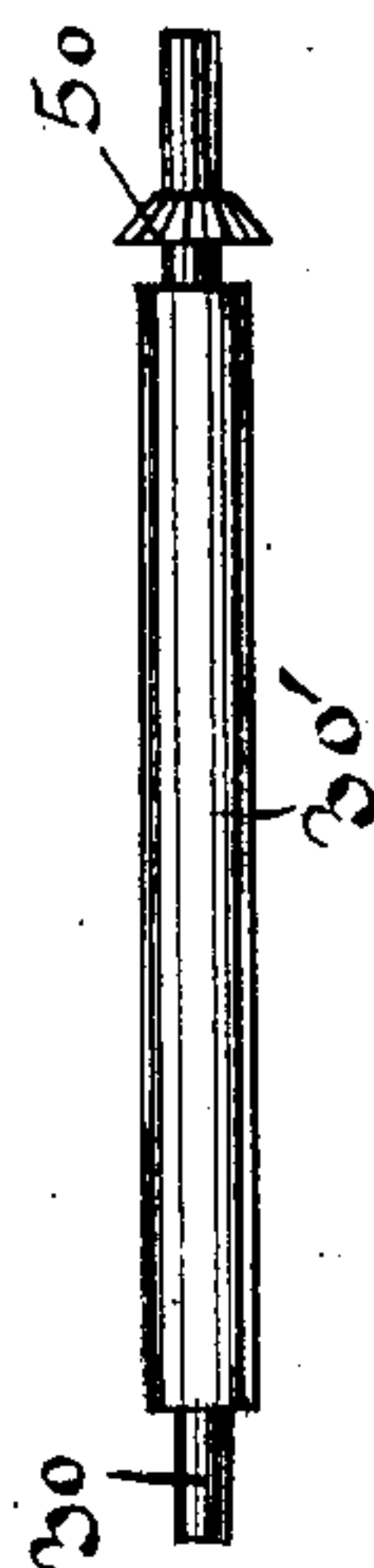
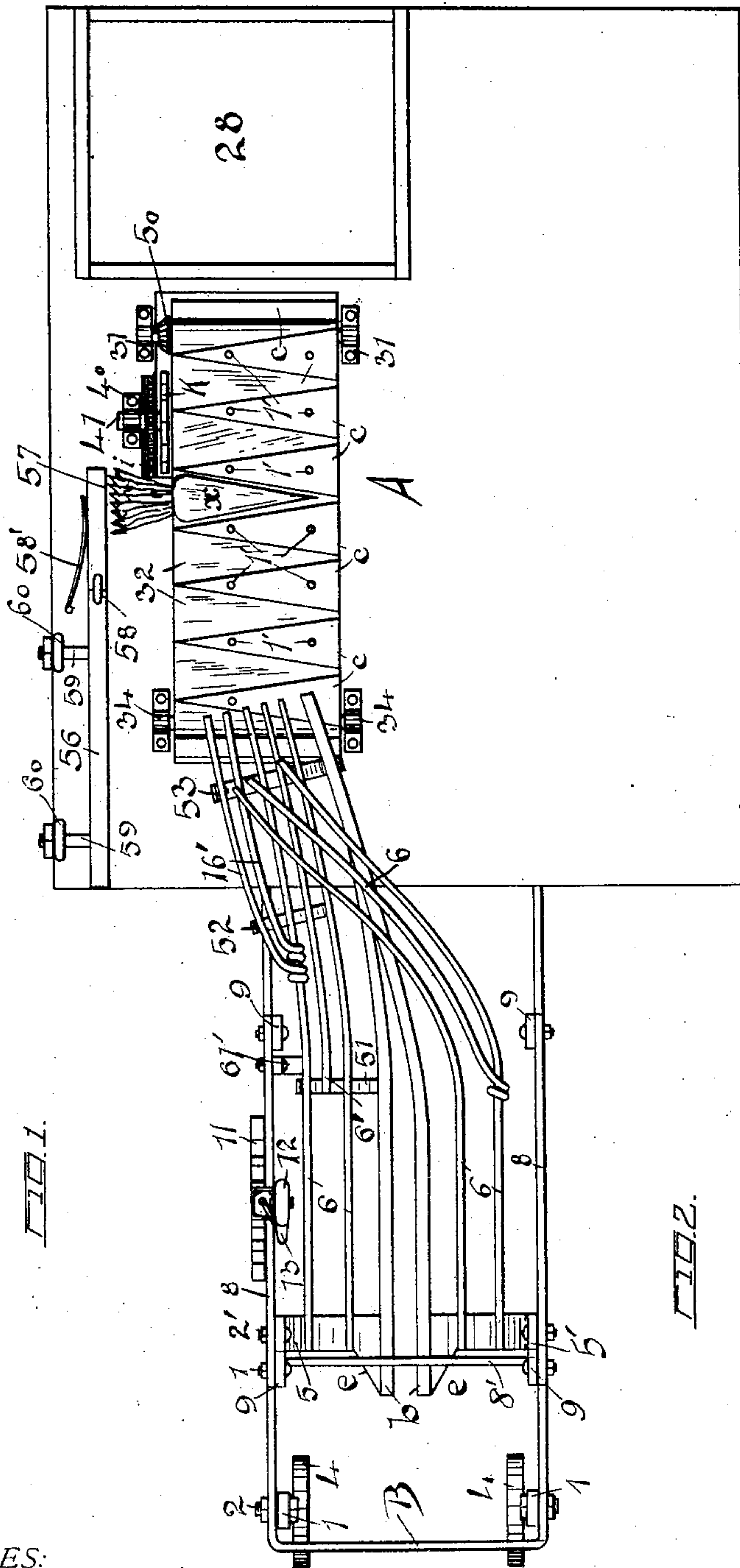
PATENTED JUNE 14, 1904.

H. E. DALLY.
BEET HARVESTER.

APPLICATION FILED SEPT. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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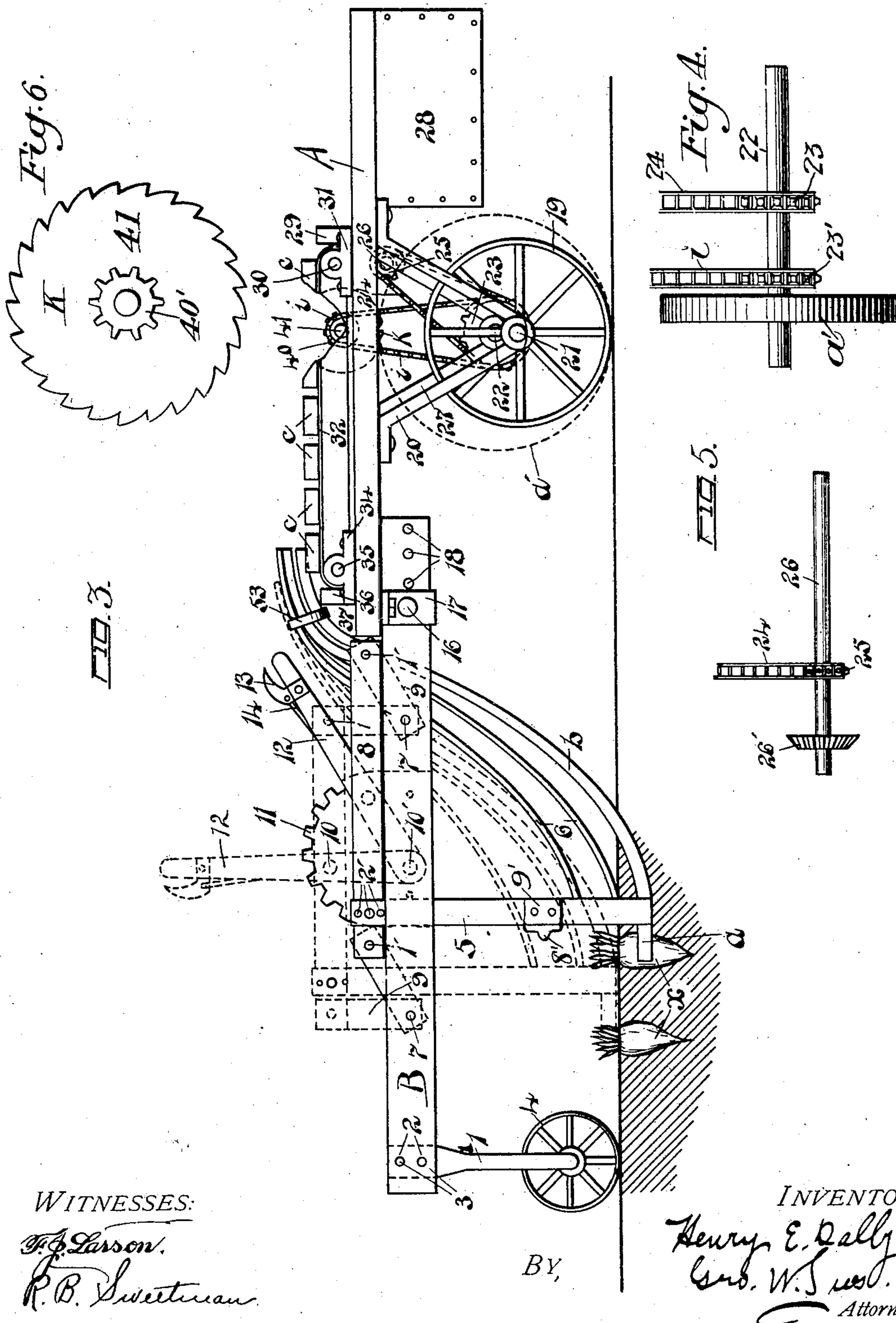
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NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

T. F. Larson.
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UNITED STATES PATENT OFFICE.

HENRY E. DALLY, OF KENNARD, NEBRASKA.

BEET-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 762,390, dated June 14, 1904.

Application filed September 18, 1902. Serial No. 123,891. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. DALLY, residing at Kennard, in the county of Washington and State of Nebraska, have invented certain useful Improvements in Beet-Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to a new and useful improvement in beet-harvesters.

The aim of my invention is to provide a beet-harvester adapted to be carried through the field, so that the beets may be loosened from and within the earth and be forced up an incline and then be deposited upon their sides upon an endless apron upon which they are held while being advanced to a knife or cutter which removes the tops, the topless beets finally being deposited within a suitable receptacle.

In the accompanying drawings I have shown, in Figure 1, a top view of a beet-harvester embodying my invention. Fig. 2 shows a detail of the shaft supporting the rear end of the endless apron or conveyer. Fig. 3 shows a side elevation of my beet-harvester. Fig. 4 shows a detail of one of the supporting-wheels provided with the main driving-shaft. Fig. 5 shows a detail of the shaft used to operate the conveyer driving-shaft. Fig. 6 shows a detail of the knife or cutter, disclosing the attached chain-sprocket.

In carrying out the aim of my invention I provide a platform A, with a supporting-wheel upon each side working within hangers, one of the wheels being marked 19 and shown in Fig. 3, this wheel being held upon a stub-axle 21 within the hanger 20. Upon the opposite side the wheel *a'* is somewhat larger than the wheel 19, and this wheel *a'* is supported by means of a stub-axle 22, held within a suitable hanger 27, as shown in Figs. 3 and 4.

Secured to the bottom of the platform A is a rectangular frame B, secured within the ears 17 by means of the screws 16, as shown in Fig. 3. In front this three-sided projecting frame,

as shown in Fig. 1, is provided with the castor-wheels 4, supported by the brackets 1, secured by the bolts 2 to the frame B. Further secured to the projecting frame B are four counterpart upright bars 9, pivotally held by means of the bolt 7, as disclosed in Fig. 3. These bars 9, used in sets of twos, are connected above to the longitudinal bars 8 by means of the pivot-pins 1', so that these two bars 8 8 may be raised and lowered, one of them being secured by means of a pin 10 to the lever 12, as disclosed in Fig. 3. This operating-lever 12 is provided with the thumb-latch 13, having the projecting bar 14 adapted to work within the notched sector 11, so that these horizontally-disposed bars 8 may be raised and lowered, these members being locked by means of the lever 12 and the gear-sector 11.

Depending from the horizontal bars 8 are the knife-yokes 5 5', each provided below with the knife *e*, from which extends an inner runner *b*, which runner is carried upward and curved backward, as is disclosed in Fig. 3.

Extending from each knife-yoke 5 5' are a plurality of grate-bars 6, which also run upward and curve over the platform A, the grate-bars secured to the knife-yoke 5' being curved entirely over the connected runner *b*, as is disclosed in Fig. 1.

The grate-bars 6 and 6', secured to the knife-yoke 5, are strengthened by the transverse bar 51, secured by the hanger 61' and provided with the additional grate-bars 16', which are secured to the strengthening-rods 52 and 53, as clearly shown in Fig. 1. The grate-bars 6, secured to the knife-yoke 5', it will be noticed, extend entirely over the runner *b*, secured to the knife-yoke 5. The yokes 5 and 5' are connected by the transverse connecting-rod 8', provided at the ends with the ears 9', whereby the rod is fastened to the yoke members, as is shown in Fig. 3. By means of the lever 12 these knife-yokes 5 and 5' may be carried into or out of the earth and be adjustably held therein. In Fig. 3 the extreme upward position of the knives *e* is shown in dotted lines. These inner runners *b* are placed a suitable distance apart and are intended to be carried a suitable distance below the sugar-

beets, as is disclosed in Fig. 3, so that as the machine is advanced the earth and sugar-beet will be pushed upward between the runners *b*, each successive sugar-beet *x* pressing and forcing the one to the rear upward. The grate-bars 6 and 6' permit the dirt dropping off of the beets in passing upward. The beets in being elevated are finally tilted to one side by means of the bars 6, secured to the knife-yoke 5', so that the beets finally rest upon their sides upon the grate members 6 6' and 16', extending from the knife-yoke 5, and from these bars the beets are finally dropped upon an endless apron 32, which is provided with a plurality of triangular blocks *c'*, forming pockets into which the beets drop. In Fig. 1 a beet *x* is shown within one of the pockets upon the endless apron or belt 32, the blocks *c'* being secured by the pins 1'. This endless apron or conveyer is supported upon two drums, one held upon the shaft 35, as shown in Fig. 3, working within the bearings 34, and the other upon the shaft 30, (shown in detail in Fig. 2,) provided with the drum 30'. In order to actuate this endless apron, the shaft 30 is provided with the bevel-gear 50, which is in mesh with a bevel-gear 26', (shown in Fig. 5,) secured to a shaft 26, which is suitably supported and connected to the platform A, so that the shaft 26 is properly held in order that its bevel-gear 26' may come in mesh with the gear 50. In Fig. 3 the position of these shafts 30 and 26 is indicated. The shaft 26 is further provided with a chain-sprocket 25, over which extends a chain 24, which passes over the chain-sprocket 23, secured to the shaft 22, as shown in Fig. 3. This shaft 22, as shown in Fig. 4, is further provided with a chain-sprocket 23', provided with a chain *i*, which chain passes over a chain-sprocket 40', (disclosed in detail in Figs. 6 and 3,) mounted upon the shaft 41, held within the bearing 40, and which shaft is provided with a cutter-knife K, as is shown in Fig. 6. From this it will be seen that the apron 32 is actuated by means of its bevel-gear 50 in mesh with the bevel-gear 26', secured to the shaft 26, which is in chain connection with the driving-shaft 22, operated by the supporting-wheel *a'*. To the rear of the endless apron 32 is a suitable receptacle 28.

The frame B is provided with a plurality of openings 18, as shown in Fig. 3, so that this frame may be shoved inward or outward.

The beets as they are carried between the runners *b* are successively forced upward by

the beets in front. In order to bring the beets into proper alinement with the cutting-knife K, I provide the runner 56, secured by means of the nut-provided bolts 59, working through the ears 60. Adjacent to the cutter this runner 56 has a hinged extension 57, secured by the spring-hinge 58, so that this extension may be held yieldingly in alinement. The spring 58' further assists in holding this member 57. Now should any beet with an exceedingly large top come within the carrier 32 this hinged section 57 would swing outward. So, also, should a short-tipped beet not be carried to the knife properly the operator could by means of his foot press this hinged member 57 inward, so that the beets will be properly fed to the cutting-knife. As a matter of fact, it is intended that the driver or one of the operators of my beet-harvester be stationed so that he can operate this swinging member 57.

Having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

The combination with a suitable platform, of supporting-wheels secured to said platform, a shaft secured to one of said supporting-wheels, a projecting frame extending from said platform, caster-wheels secured to said projecting frame pivotally-held bars secured to said projecting frame, knife-yokes extending from said pivotally-held bars and connected to move together, an adjusting-lever secured to one of said pivotally-held bars, inner runners running parallel and extending from each knife-yoke, grate-bars extending from each of aforesaid knife-yokes, grate-bars extending from one knife-yoke curving over the grate-bars upon the opposite side as set forth, an endless apron below the upper ends of said grate-bars, driving mechanism to operate said endless apron, blocks upon said apron to form triangular pockets, an adjustable sill adjacent to said endless apron, a cutter-knife positioned adjacent to said apron, and means to operate said cutter-knife, all arranged substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY E. DALLY.

Witnesses:

G. O. HARRISON,
W. F. GARNER.