

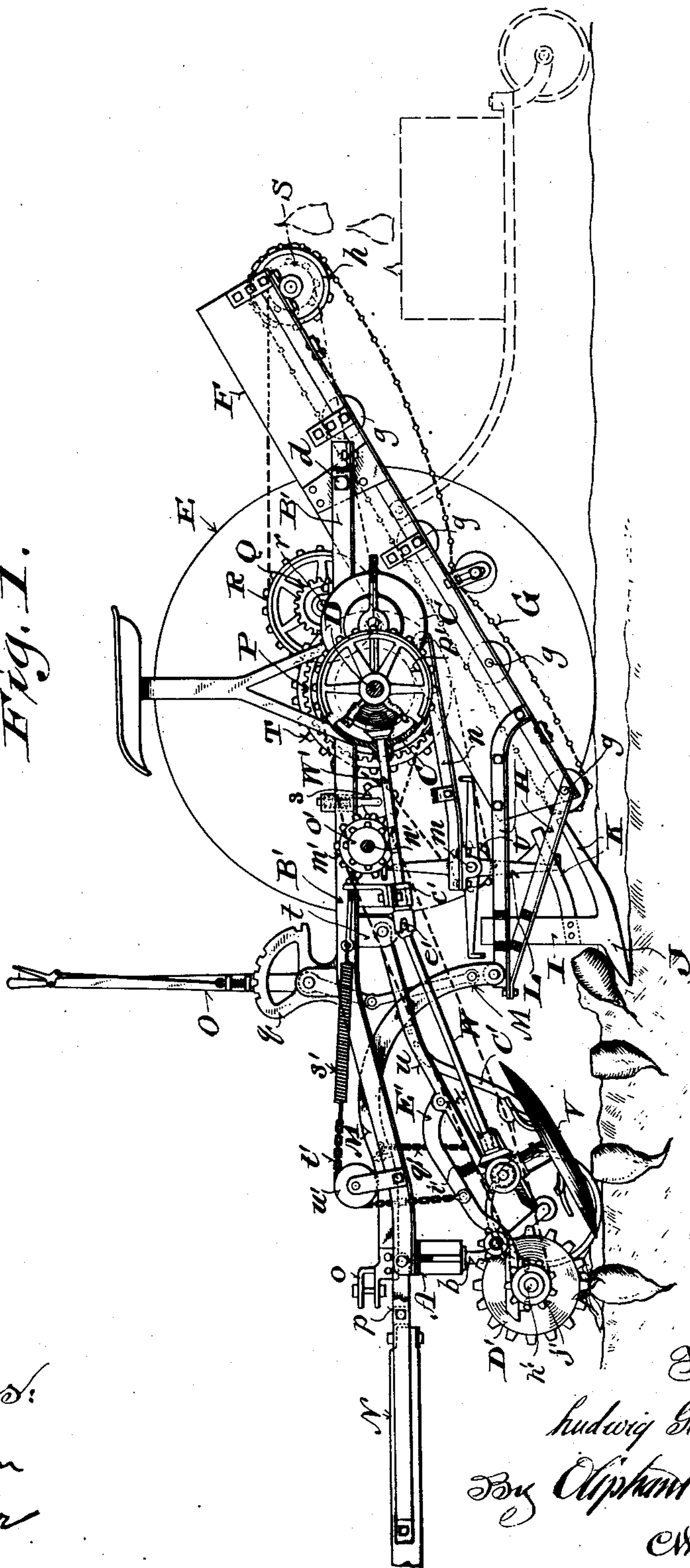
## BEET HARVESTER.

Patented Apr. 27, 1909.


3 SHEETS—SHEET 1.

**919,342.**

*Fig. 1.*



Witnesses:  
Fred Palm  
George Felber

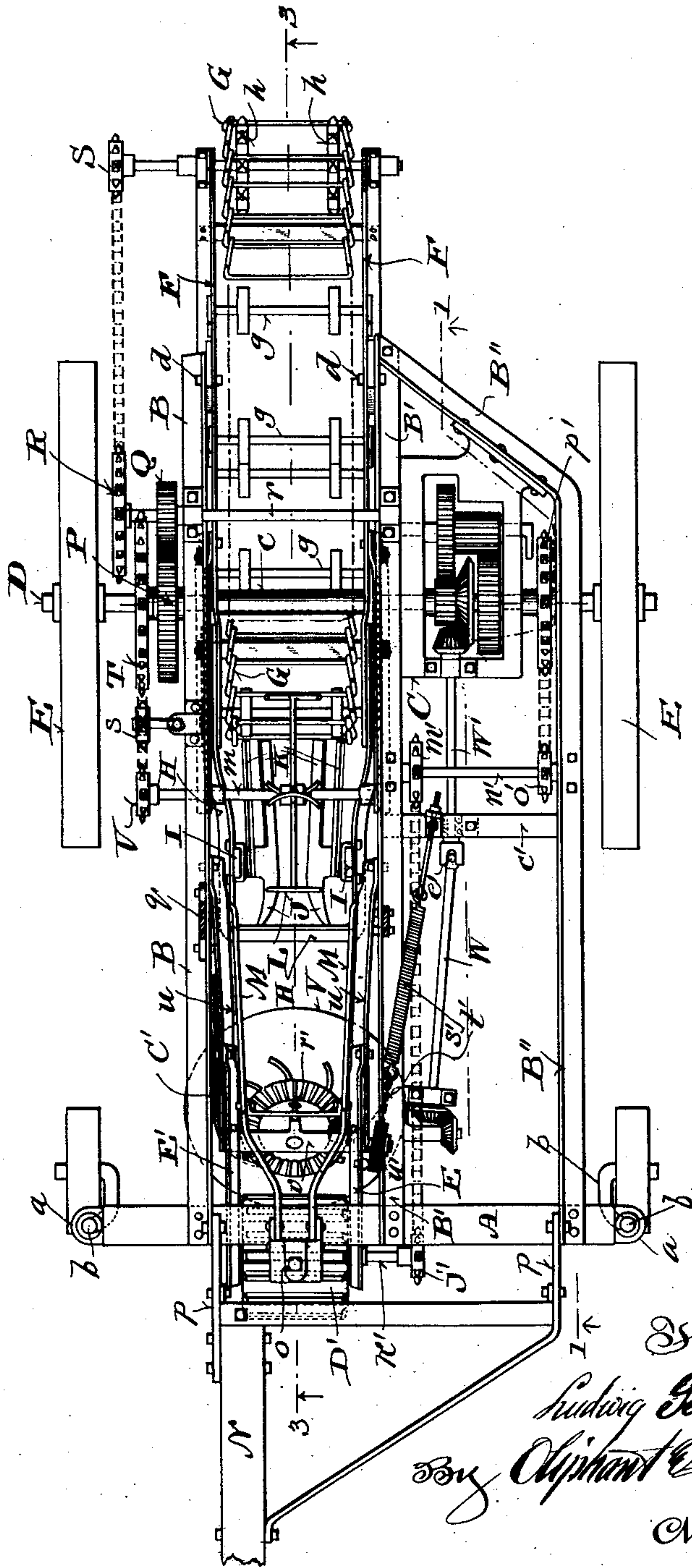

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BEET HARVESTER.  
APPLICATION FILED JULY 6, 1907.

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3 SHEETS—SHEET 2.

Fig. 2.



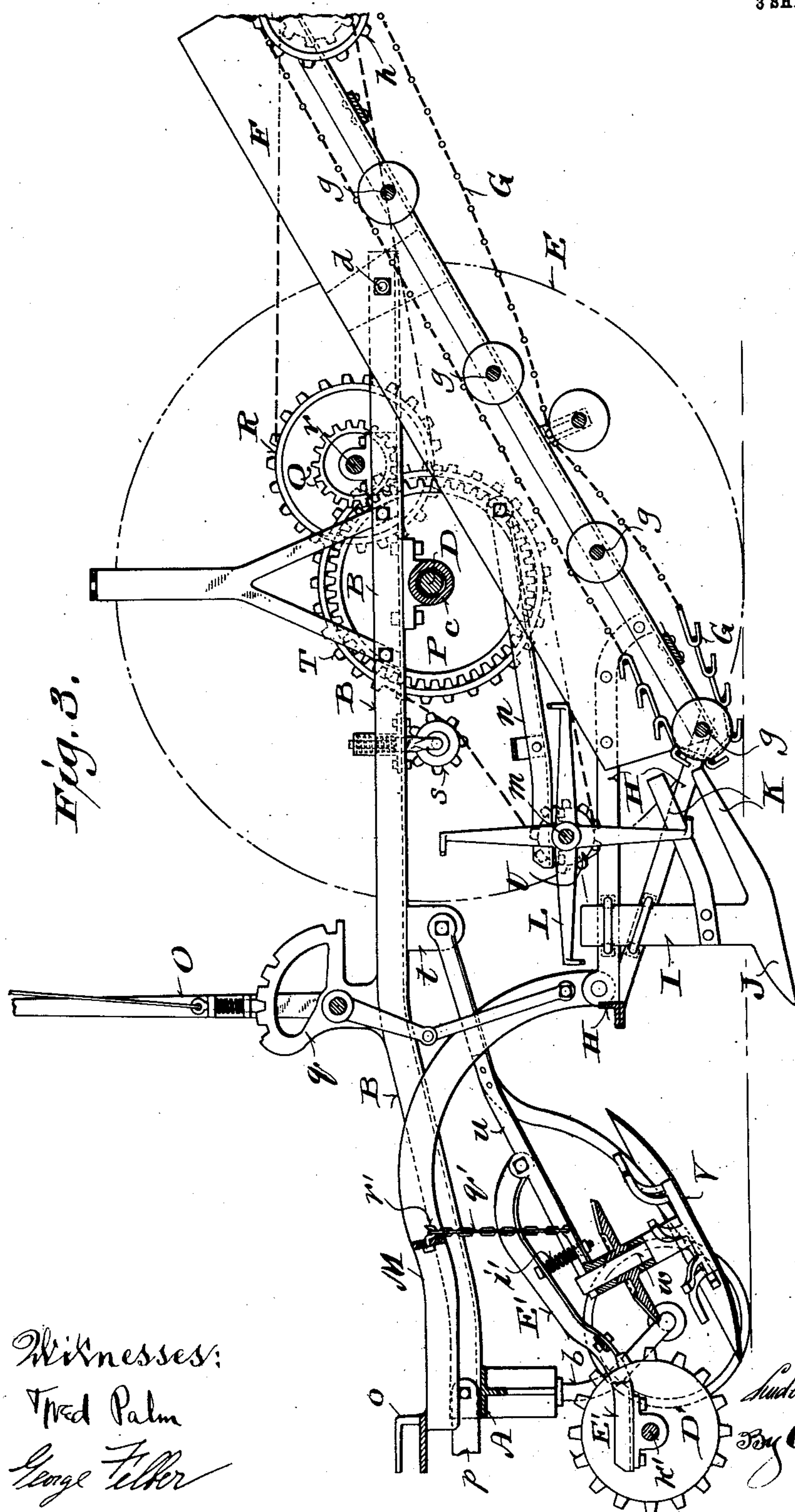
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# UNITED STATES PATENT OFFICE.

LUDWIG GETTELMANN, OF SOUTH GERMANTOWN, WISCONSIN.

## BEET-HARVESTER.

No. 919,342.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed July 5, 1907. Serial No. 382,142.

*To all whom it may concern:*

Be it known that I, LUDWIG GETTELMANN, a citizen of the United States, and resident of South Germantown, in the county of Washington and State of Wisconsin, have invented certain new and useful Improvements in Beet-Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof.

10 The object of my invention is to provide simple, economical and effective beet-harvesters, said invention combining, in a single machine, means whereby beets are first topped, then loosened and lifted from the  
15 soil and thereafter elevated by a conveyer, the action of which conveyer tends to shake off the loose soil from the beets previous to the discharge of same into a suitable receptacle, said invention embodying features of  
20 my beet-topper patent of July 30, 1907, No. 861,511, and a beet-harvester patented by me December 26, 1905, No. 808,281.

The invention therefore consists in various novel mechanical features and combination  
25 of parts as herein described with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a side-elevation of a beet-harvester embodying the features of my invention, with parts broken away and parts in section to better illustrate the invention, as indicated by line 1—1 of Fig. 2; Fig. 2, a plan view of the same; and Fig. 3, an enlarged detail longitudinal  
35 section, the section being indicated by line 3—3 of Fig. 2.

Referring by letter to the drawings, A indicates a transverse forward beam having vertically depending terminals, to which are  
40 secured bearing-brackets *a* for pintle-rods *b*, the shank-portions of which pintle-rods have mounted thereon a pair of supporting caster wheels. Fastened at their forward ends to the beam A are parallel beams B,  
45 B', B''. The rear end of the beam B'' is connected to the beam B', while all the beams are braced by and connected to a housing or gear-casing C. A sleeve *c* of the gear-casing has revolubly mounted therein an axle D  
50 carrying traction-wheels E, these wheels together with the caster-wheels serving as a support for the described beam members, which members together constitute a rigid

truck, having secured thereto a driver's seat of the usual type.

55 An elevator-frame is pivotally suspended between the truck-beams B, B' by means of bolts *d*, which bolts pass through the rear ends of said beams and side-plate F of the elevator-frame. The said frame projects  
60 forwardly and downwardly from the truck-axle and is provided with a series of roller-carrying spindles *g* for an endless conveyer-chain G. The conveyer-chain travels over sprocket-wheels *h* at the discharge-end of the  
65 elevator-frame, the said sprocket-wheels being fast on a drive-shaft which shaft is mounted in bearings secured to the elevator-frame, there being a suitable guide-roller for the slack-side of said conveyer-chain also  
70 secured thereto. The mouth-end of the elevator-frame has rigidly secured thereto a yoke H, to which yoke are secured boot-extensions I of shoes J, the toe-portions of the shoes being pointed and slightly flared in  
75 opposite directions to facilitate loosening the soil and lifting the beets as they enter therebetween. The heel-portions of the shoes and lower boot-portions have rearwardly and upwardly inclined prongs K,  
80 which guide the excavated beets upon the elevator conveyer chain. The said beets when lifted are positively delivered to the conveyer by means of a driven reel L, that is disposed directly above the shoes and se-  
85 cured to a shaft *m*, mounted in bearings of arms *n*, which arms are pivoted to the elevator side-plates. The reel-arms *n* being pivoted to the aforesaid elevator automatically yield with the rotary reel L to resistance  
90 of the mass of material crowded back on the prongs of the lifting shoes J and thus bruising of the beets is prevented.

An arched draft-bail M is pivoted to the forward end of the yoke H, having its free  
95 end provided with a whiffle-tree clip *o* that projects over and above the beam A of the truck, the draft-bail being entirely independent of the latter. A tongue or pole N however is pivoted between the truck-beams B,  
100 B'', by means of hounds *p*, the tongue serving only as a guide for the truck.

The forward end of the elevator and its accompanying beet-lifting mechanism, is arranged to be adjusted to different elevations,  
105 by a hand-lever O, which is linked to the



draft-bail M, the hand-lever being fulcrumed in a sector *q* secured to the truck-beam B and having notches for the reception of a spring-controlled detent carried by said hand-lever. As shown in Fig. 1, of the drawings the elevator is depressed or in its working-position, and to lift the same the hand-lever is pulled rearward, thus causing said elevator to swing upward upon its pivot-bolts *d*, in which position it may be locked by the detent, either for the purpose of shallow draft or transportation.

Motion is transmitted from the truck-axle D to the conveyer-chain G by a gear-wheel P fast on said truck-axle and meshing with a pinion Q that is carried by a counter-shaft *r*, which shaft is journaled in boxes secured to the beams B, B'. Also secured to this shaft *r* is a sprocket-wheel R, the said sprocket-wheel being in link-belt connection with a smaller sprocket-wheel S fast on the drive-shaft *i* of the conveyer-chain. The truck-axle at this side of the machine carries a sprocket-wheel T which wheel transmits motion to the reel L, the shaft *m* of which has fast thereon a sprocket-wheel U that is in link-belt connection with said sprocket-wheel T, there being a suitable spring-controlled slack-adjusting sprocket *s* in connection with the truck-beam B for the link-belt. Ears *t* depending from the truck-beams B, B', have pivoted thereto arms *u* of a topping-mechanism supporting-frame. The topping-mechanism supporting frame has a pair of vertically disposed bearings for a spindle *w*, which spindle carries a cutting disk V, the spindle being in bevel-gear connection with a drive-shaft W. The drive-shaft W in turn is coupled to a shaft W' by means of a knuckle-joint *e'*, the shaft W' being mounted in bearings of a cross-brace *c'* and gear-casing C. This shaft W' is in gear-connection with a suitable gearing nested in the gearing-casing, motion being imparted thereto by the axle D whereby rotation of the cutting-disk V is attained.

A lagged feed-roller D' is located forward of the disk V and revolubly mounted in a frame E', which frame is pivoted to the arms *u* of the topping-mechanism frame. This roller is provided with a spring-controlled bolt *i'*, which connects its frame with said arms *u*, so that the position of said roller may be varied with relation to the cutting-edge of the disk. The roller D' is positively driven at a greater peripheral speed than the forward travel of the machine by a sprocket-wheel *j'* fast on the roller axle *k'*, the sprocket-wheel being in link-belt connection with a sprocket-wheel *m'* secured to a counter-shaft *n'*. The said counter-shaft is hung in bearings secured to the beams B', B'', there being another sprocket-wheel *o'* of this counter-shaft in link-belt connection with a sprocket-wheel *p'*, which sprocket-wheel is fast on the

truck-axle D, as shown. The drive thus imparted to the feed-roller tends to gather up the beet-leaves and deliver the same in a mass upon the upper face of the disk together with the severed portions of the beets, thus preventing the cutting-edges of said disk being clogged by moist or dead leaves and the like.

The entire topping-mechanism is suspended by a chain *q'* from a cross-bar of the draft-bail M, the chain being connected to the topping-mechanism frame and is adjustably linked to a hook *r'* of the cross-bar. By means of this flexible connection the elevation of the cutting-disk is positively set with relation to the draft-rigging, the said mechanism being however free to rise or fall as it contacts with beets of uneven height. In order that the weight of the aforesaid mechanism may be relieved somewhat from exerting pressure upon the beets as the feed-roller rides over the same, a counter-balance spring *s'* is adjustably connected to the cross-brace *c'* by means of a bolt, the spring being fast at its outer end to a chain *t'*, which chain passes over a pulley *u'*, and is secured to said feed-roller frame E'. Pulley *u'* is attached to the truck-beam B', by which arrangement it will be seen that the weight resistance of the topping-mechanism is taken up by the truck, while owing to the suspension-chain *q'* being connected by the draft-rigging, the said topping-mechanism is raised or lowered with the adjustment of the beet lifting mechanism under the control of the hand-lever.

Assuming the machine to be traveling forward and the parts adjusted in their working position, as shown in Fig. 1, the cutting-disk severs the beet-tops and throws them to one side, following which the lifting-shoes now traveling under the ground will loosen the same and straddle the beets, and in its forward movement these shoes tend to throw the beets upward and back. The reel then sweeps the loose beets backward to the elevator, which elevator carries the same upward and discharges them into a suitable receptacle, such as indicated by dotted lines in Fig. 1. The vibration of the conveyer-chain in the meantime having thoroughly cleansed the beets from any adhering soil.

I claim:

In a beet-harvester having a wheel-supported truck-frame, an inclined elevator-mechanism pivoted to the truck-frame rearward of its wheels, the inclined elevator-mechanism being provided with a beet-lifting mechanism at its lower forward end, a forwardly inclined beet-topping mechanism pivoted to the truck-frame and in advance of the beet-lifting mechanism, a draft-bail in pivotal connection with said elevator-mechanism, the draft-bail being independent of the truck-frame, a flexible connection between the draft-bail and beet-topping mech-



anism, a pole in connection with said truck-frame, and a detent lever carried by the aforesaid truck-frame in connection with the elevator-mechanism, whereby the same together with the draft-bail is raised or lowered.

5 In testimony that I claim the foregoing I have hereunto set my hand at South Ger-

mantown in the county of Washington and State of Wisconsin in the presence of two witnesses.

LUDWIG GETTELMANN.

Witnesses:

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FRANK J. SCHWALBACH.