

No. 753,451.

PATENTED MAR. 1, 1904.

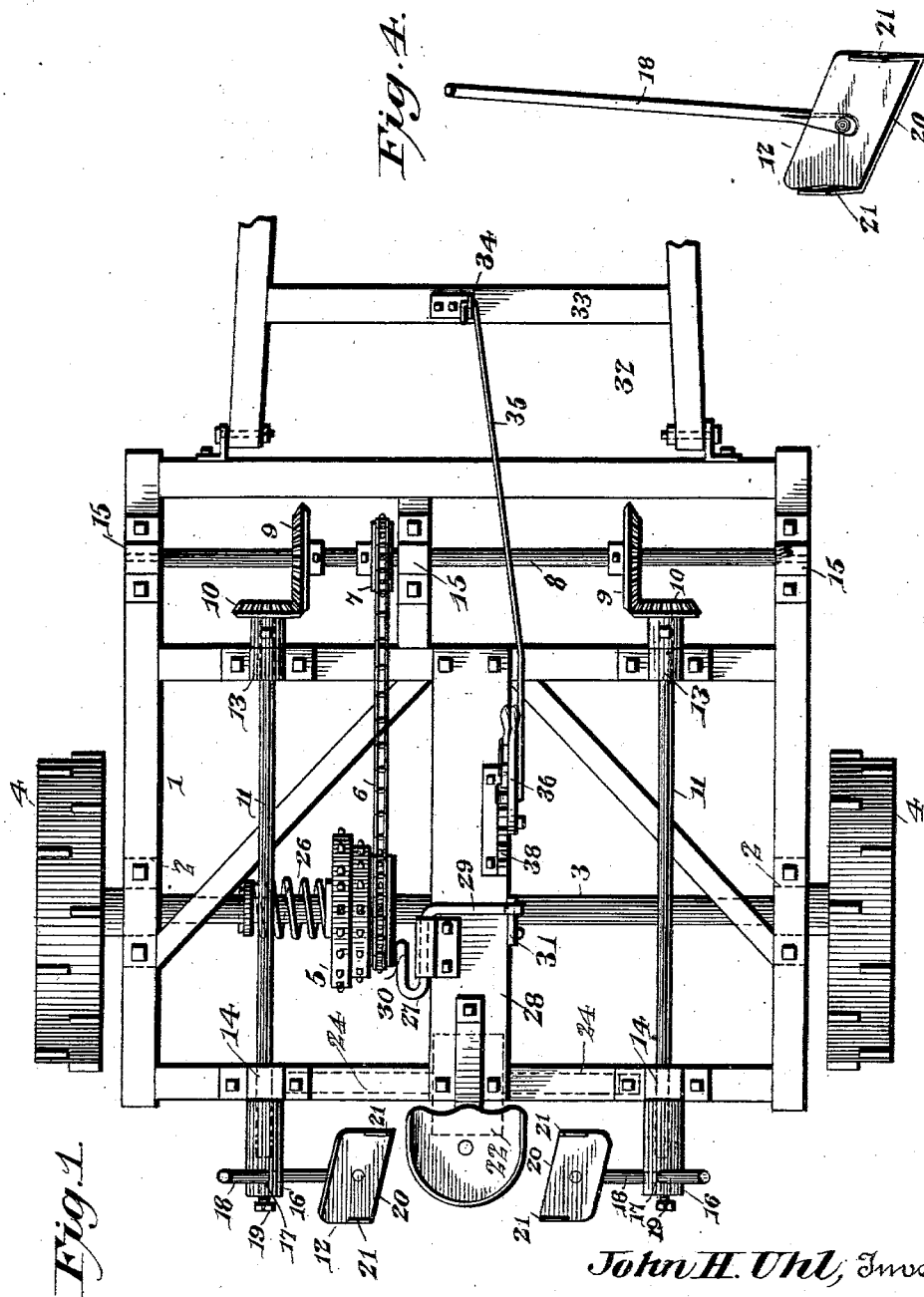
J. H. UHL.

# MACHINE FOR BLOCKING SUGAR BEETS.

APPLICATION FILED MAY 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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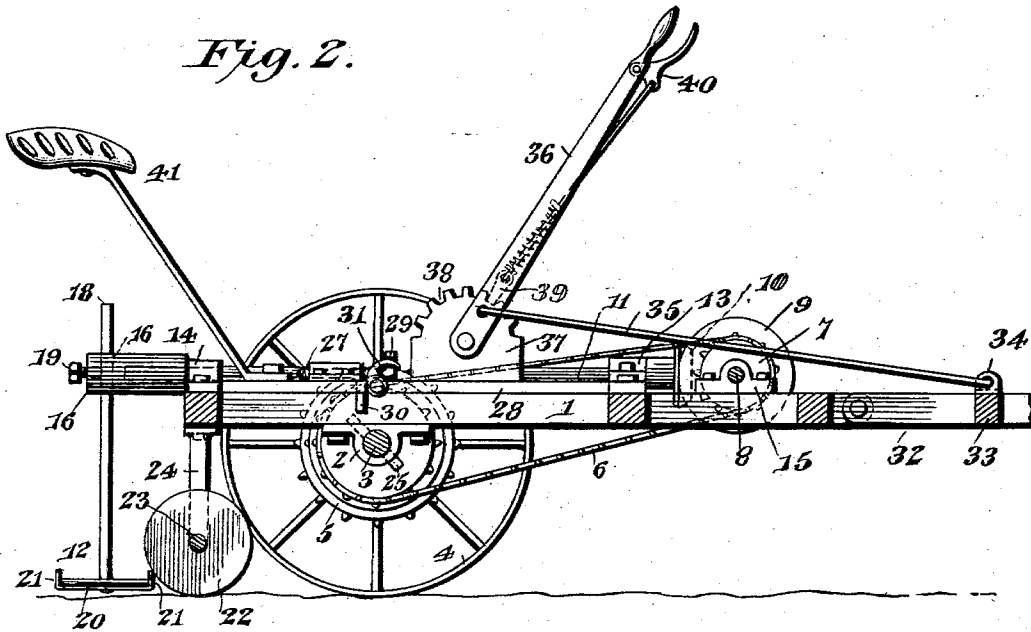
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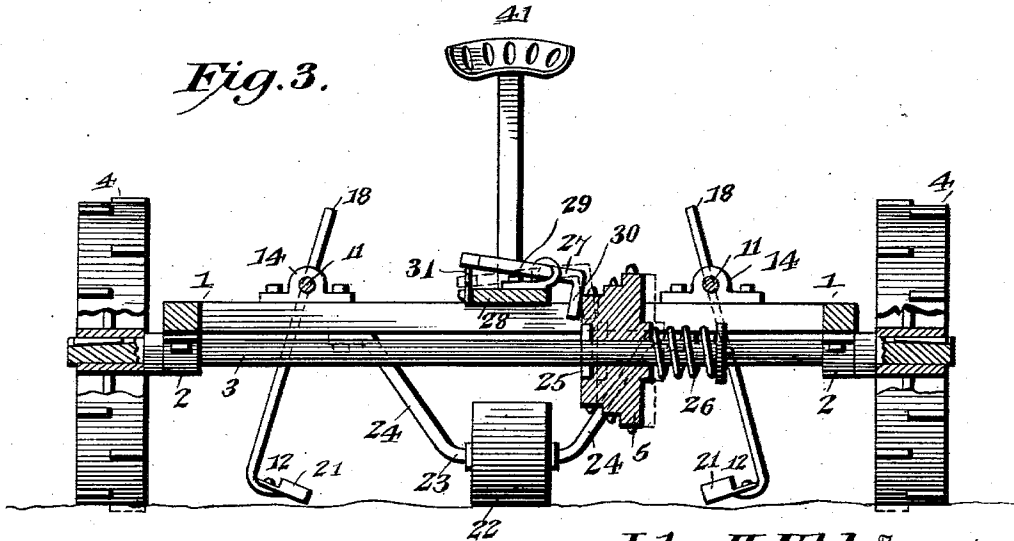
NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

JOHN H. UHL, OF UNIONVILLE, MICHIGAN.

## MACHINE FOR BLOCKING SUGAR-BEETS.

SPECIFICATION forming part of Letters Patent No. 753,451, dated March 1, 1904.

Application filed May 13, 1903. Serial No. 156,973. (No model.)

### *To all whom it may concern:*

Be it known that I, JOHN H. UHL, a citizen of the United States, residing at Unionville, in the county of Tuscola and State of Michigan, have invented a new and useful Machine for Blocking Sugar-Beets, of which the following is a specification.

The invention relates to a machine for blocking sugar-beets.

10 The object of the present invention is to provide a simple and comparatively inexpensive machine for blocking out sugar-beets adapted to be arranged for operating on rows of any width and capable of ready adjustment  
15 to cut or block out beets at the desired interval.

A further object of the invention is to provide a machine of this character adapted to be readily thrown into and out of operation and capable of ready adjustment to regulate the  
20 depth of the cut.

Also it is an object of the invention to provide a hoe or blade which will cut readily through the beets and soil without tearing up the latter and without interfering with the  
25 draft of the machine.

Another object of the invention is to prevent the hoes or blades from sinking too deep into the ground when the machine is traveling over an uneven surface.

30 With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood  
35 that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a sugar-beet-blocking machine constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig.  
40 3 is a transverse sectional view. Fig. 4 is a detail view of one of the blades or shovels.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

50 1 designates a main frame of approximately

rectangular form provided at points slightly in rear of its center with bearings 2 for an axle or shaft 3, to the ends of which are secured carrying-wheels 4. These wheels 4, which support the machine, are provided with  
55 broad peripheries having projecting lugs adapted to engage the ground and insure the rotation of the axle.

Slidably mounted on the axle 3 is a sprocket-gear 5, having three sets of sprocket-teeth of  
60 different diameters to enable the speed of the machine to be changed, for a purpose hereinafter explained. Instead of employing a triple sprocket-gear, as illustrated in Fig. 1 of the drawings, a double or single gear may be used,  
65 or a gear having a greater number of sprocket-teeth may be employed. The sprocket-gear 5 receives a sprocket-chain 6, which extends forward to a sprocket-pinion 7 of a counter-shaft 8, disposed transversely of the machine  
70 and located at the front portion thereof. The sprocket-chain may be connected with the sprocket-pinion 7 and with any one of the sets of sprocket-teeth of the gear 5, and links may be added to or removed from the sprocket-  
75 chain for this purpose.

The transverse shaft 8 is connected by bevel-gears 9 and 10 with the front ends of longitudinal shafts 11, which extend to the rear  
80 end of the machine and which carry cutting blades or hoes 12. The bevel-gears are secured to the shafts 8 and 11 by set-screws, and the bearings 13 and 14 of the longitudinal shafts are adjustable transversely of the machine to enable the hoes or blades to be ar-  
85 ranged at different distances apart and to adapt the machine for operating on rows of beets of any width. The bearings 15 of the counter-shaft 8 are detachable, and the said shaft 8 may be removed to facilitate any adjust-  
90 ment of the bevel-gears. The sprocket-pinion 7 is also adjustably mounted on the counter-shaft and is adapted to be arranged in line with any one of the gears of the sprocket-wheel 5.

The longitudinal shafts 11 are provided at their rear ends with heads or enlargements 16, having transverse openings 17 for the recep-  
95 tion of shanks 18, which have their outer ends bent at an angle for the hoes or blades. The 100

heads 16 are also provided with threaded perforations extending inward from their outer ends and receiving clamping or set screws 19 for engaging the shanks of the hoes or blades 5 12, whereby the latter are secured at the desired adjustment. The blades or hoes have front cutting edges 20, arranged at an angle to the line of travel of the machine and provided at opposite sides with projecting flanges 10 21, having cutting edges and adapted to cut through the soil, whereby the hoes or blades are prevented from tearing up the ground. The angular disposition of the cutting edge of the hoe or blade enables the same to cut 15 through the soil and beets without being dragged in the ground by the machine, whereby it is prevented from interfering with the draft of the machine. The rear edge of the blade or hoe is set at an angle and is parallel 20 with the front cutting edge, as clearly shown in Fig. 1. The shanks of the blades or hoes consist of rods, and they are adapted to be adjusted in the transverse openings of the heads or enlargements of the longitudinal shafts to 25 arrange the hoes or blades for cutting the desired depth.

The rear end of the frame of the machine is provided with a wheel 22, located beneath the center of the rear end of the machine and 30 mounted on a shaft or axle 23, which is extended at opposite sides of the wheel to form inclined arms or braces 24. These arms or braces 24 are secured to the frame of the machine at opposite sides of the center of the rear end, and the wheel 22 is adapted to prevent the hoes or blades from sinking too far 35 into the soil when the machine is traveling over uneven ground.

The main sprocket-wheel 5 is provided at 40 its inner side with a recess to receive a key 25 of the axle, and it is held in engagement with the key by a coiled spring 26, disposed on the axle 3 and engaging the outer side of the main sprocket-wheel. The main sprocket-wheel is 45 moved out of engagement with the key by means of a foot-lever 27, and it is then loose on the shaft, whereby the shaft or axle 3 will be prevented from rotating the blades or hoes. The foot-lever, which is fulcrumed on the main 50 frame at one side of a central longitudinal bar or portion 28, is provided with a transverse arm 29, and it has a depending L-shaped arm 30. The L-shaped arm 30, which is connected with one end of the body portion of the lever, 55 extends parallel with the same to a point near the center thereof and depends therefrom. The depending portion is arranged to swing transversely of the machine, and when the arm 29 is depressed the said depending portion is carried into engagement with the main 60 sprocket-wheel 5. The main sprocket-wheel 5 may be locked out of engagement with the axle by means of a pivoted hook 31, mounted on the central bar or portion 28 of the frame 65 of the machine.

A pair of shafts or thills 32 is connected with the front of the machine, and the shafts or thills are connected by a rear cross-bar 33, having a perforated ear 34 to receive a rod 35. The rod 35 has its front end bent into the form 70 of a hook for engaging the perforated ear, and the rear end of the rod is connected to an operating-lever 36, which is provided with a perforation for the reception of the rear end of the rod. The rear end of the rod is bent 75 to form a pivot to fit into the perforation of the operating-lever. The operating-lever 36 is fulcrumed on a bracket 37, which is provided with a toothed segment 38, and the lever 36 has a spring-actuated dog 39 for engaging 80 the segment. The spring-actuated dog is connected with the latch-lever 40, located adjacent to the grip or handle portion of the operating-lever. The operating-lever enables 85 the position of the frame of the machine with relation to the draft-animal to be readily changed or adjusted.

A seat 41 for the accommodation of the driver is mounted on the rear portion of the central bar or piece 28. 90

What I claim is—

1. In a machine of the class described, the combination of a frame, an axle supporting the frame, longitudinal shafts located at opposite sides of the frame and provided at their 95 rear ends with blades or hoes, a transverse shaft, gearing connecting the shafts, a sprocket-pinion mounted on the transverse shaft, and arranged between the longitudinal shafts and a sprocket-wheel mounted on the 100 axle at a point between the longitudinal shafts and provided with a plurality of gears of different diameters, and a chain connecting the sprocket-wheel and the sprocket-pinion, substantially as described. 105

2. In a machine of the class described, the combination of a frame, an axle supporting the same, longitudinal shafts located at opposite sides of the frame and provided at their rear ends with rotary blades, a transverse shaft, 110 gearing connecting the shafts, a sprocket-pinion mounted on the transverse shaft, a sprocket-wheel carried by the axle, said sprocket-wheel and pinion being located between the longitudinal shafts, a chain connecting 115 the sprocket-wheel and pinion, and a wheel located at the center of the rear portion of the frame between the longitudinal shafts to prevent the blades from sinking too far into the soil, substantially as described. 120

3. A machine of the class described provided with a rotating hoe or blade having a cutting edge arranged at an angle to the direction of movement of the machine, said blade or hoe being also provided at opposite sides 125 with flanges extending from the blade at an angle and provided with cutting edges, substantially as described.

4. In a machine of the class described, the combination with a shaft, of a shank secured 130

to the shaft, and arranged at an angle to the same and having its outer end bent at an angle and a blade or hoe secured diagonally to the bent outer end of the shank and provided  
5 with angularly-disposed front and rear edges, substantially as described.

5. In a machine of the class described, the combination of a longitudinal shaft, a shank extending from the shaft, and a blade or hoe  
10 carried by the shank and provided with a front cutting edge and having side flanges, the latter being also provided with cutting edges, substantially as described.

6. In a machine of the class described, the combination of a frame, a longitudinal shaft,  
15 a shank extending from the shaft, and a blade carried by the shank and having angularly-disposed front and rear edges and provided with side flanges, substantially as described.

20 7. In a machine of the class described, the combination of a frame provided with wheels, a longitudinal shaft actuated by the latter, and

a rotating blade or hoe connected with and carried by the shaft, and set at an angle to the direction of movement of the machine, where-  
25 by it is adapted to cut through the soil without dragging the same, substantially as described.

8. In a machine of the class described, the combination of a frame provided with wheels,  
30 a shaft, a rotating blade or hoe carried by the shaft and set at an angle to the direction of movement of the machine and provided at opposite sides with projecting flanges, whereby the blade or hoe is adapted to cut through the  
35 soil without tearing up or dragging the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN H. UHL.

Witnesses:

J. C. PURDY,

C. A. HOFMEISTER.