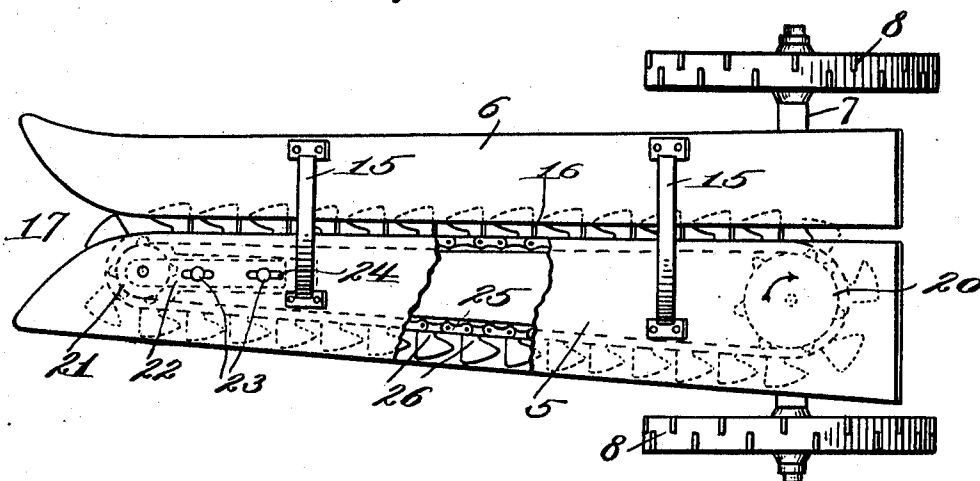
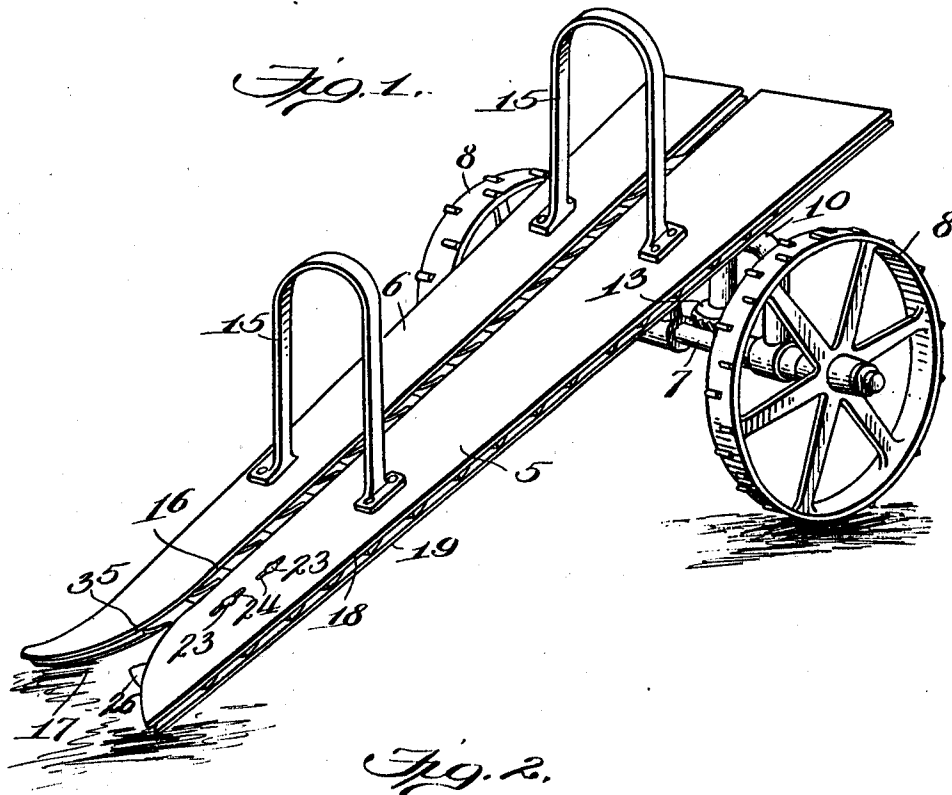


H. ASBELL.
STALK PULLER.
APPLICATION FILED SEPT. 13, 1910.

1,004,523.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



Witnesses:

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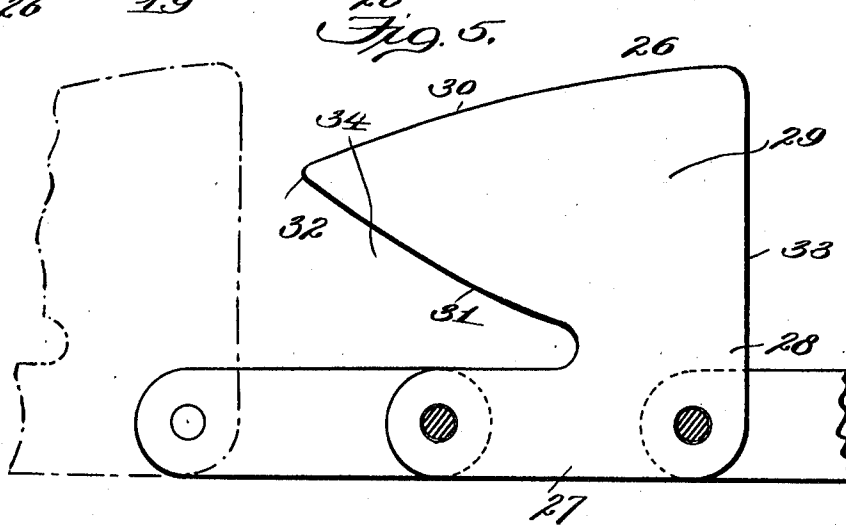
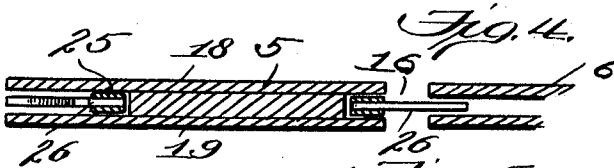
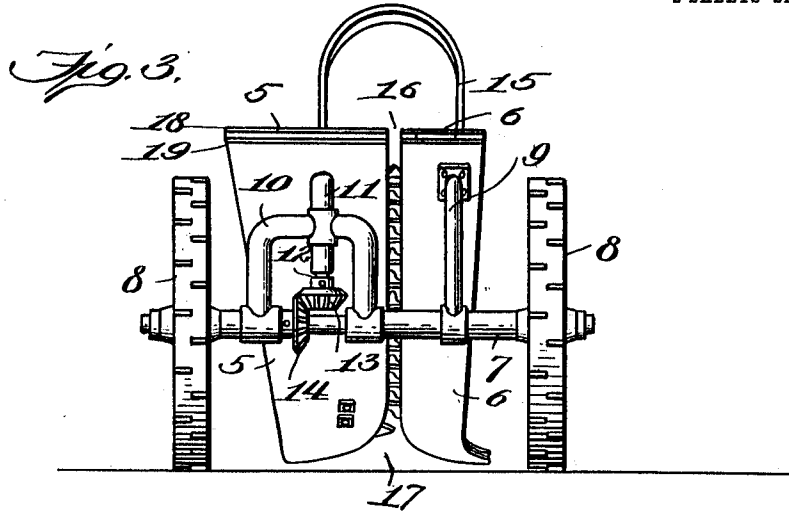
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HENRY ASBELL, OF HUNTSVILLE, MISSOURI.

STALK-PULLER.

1,004,523.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed September 13, 1910. Serial No. 581,757.

To all whom it may concern:

Be it known that I, HENRY ASBELL, a citizen of the United States, residing at Huntsville, in the county of Randolph and State of Missouri, have invented new and useful Improvements in Stalk-Pullers, of which the following is a specification.

This invention relates to stalk pullers particularly adapted for pulling cotton stalks, and the primary object of the same is to provide a simple and effective machine which may be easily propelled over the ground surface and regularly engage rows of stalks to pull the latter in a manner similar to the manual methods employed and without leaving any stub or portion of the stalk standing and thereby thoroughly clean a tract or field in an expeditious and reliable manner.

With these and other objects and advantages in view, the invention consists in the construction and arrangement of the several parts which will be more fully hereinafter described and claimed.

In the drawings: Figure 1 is a perspective view of a machine embodying the features of the invention. Fig. 2 is a top plan view of the same partially broken away. Fig. 3 is a rear end elevation of the machine. Fig. 4 is a detail cross-sectional view of a portion of the machine. Fig. 5 is a detail plan view of an enlarged scale showing a portion of the pulling devices.

The numerals 5 and 6 designate the main sections of what may be termed the runners of the machine, which are held at their rear portions to and over an axle 7 having suitable ground or traction wheels 8 thereon. The section or runner 6 is connected to the axle 7 by a support or brace 9, see Fig. 3, and engaging another portion of the said axle are the extremities of an arch 10 having a sleeve or tubular support 11 held therein and engaging the section or runner 5 and forming a bearing for a counter-shaft 12 provided with a bevel gear 13 on its lower end held in continual mesh with a similar gear 14 fixed on the axle 7, the two gears 13 and 14 being located between the legs of the arch 10 and operating to drive the counter-shaft 12 from the axle. The gears 13 and 14 may be suitably inclosed or boxed to render them dust and dirt-proof, as will be readily understood, such inclosure being a common expedient and well known as a gear protective means. Draft appliances of any preferred form will be applied to the main

sections or runners 5 and 6 in any suitable manner for the purpose of propelling the machine over the ground surface.

The main sections or runners 5 and 6 are tied to each other by upstanding arched connectors 15 preferably formed of yielding or resilient metal, and between the inner opposing edges of the said sections or runners a slot or way 16 is provided which merges into an outwardly flared throat 17 between the lower extremities of the said runners. The throat 17 is formed by cutting the inner opposing corners at the lower extremities of the sections or runners in outwardly curved planes, the sections or runners being disposed at an upward angle of inclination and having their forward receptive extremities in close relation to the ground surface so that the stalks may successively enter the throat 17 and pass upwardly through the slot or way 16. The connectors 15 permit the runners to have a slight lateral yielding movement so as to accommodate stalks of diameters greater than the width of the slot or way 16.

The section or runner 5 is composed of upper and lower members 18 and 19 which are held suitably spaced, and between them at the upper portion of the runner a drive sprocket 20 is located and fixed on the upper end of the counter-shaft 12. Between the lower extremities of the members 18 and 19 a guide sprocket 21 is disposed and is of considerably smaller diameter than the sprocket 20, said sprocket 21 being adjustably supported or held by an adjusting plate 22 engaged by bolts 23 adjustable in slots 24 in one of the members, as for instance the member 18. Trained over the sprocket wheels 20 and 21 is an endless chain 25 embodying links which are intersected at intervals by pulling blades or devices 26 which form a part of the endless chain and preferably of the shape or contour shown by Fig. 5. Each pulling blade or device comprises a link body 27 movably connected to the chain links, a web 28 extending partially over the outer edge of the said link body and an angular plate 29 continuous with the web and having outer and inner curved edges 30 and 31 converging toward a reduced extremity 32 and a straight base 33, the latter extending in a plane at right angles to the endless chain. The inner curved edge 31 of the plate 29 forms a seat or receiving pocket relatively to the adjacent edge of the link

body 27 and connecting link of the chain as at 34, said seat or receiving pocket converging rearwardly and partially closed by the succeeding straight base 33. In other words, each pocket 34 has a transversely straight obstructing wall 33 coöperating therewith throughout the whole series of pulling devices or of the endless chain, said wall operating to prevent accidental release of the stalks engaged or drawn into the pockets. The endless chain carrying the blades 26 travels in fully covered relation between the members 18 and 19 of the section or runner 5, and the blades 26 move in a groove 35 formed in the inner edge of the section or runner 6 and which edge serves as one of the walls for the slot or way 16. It will therefore be understood that the blades 26 fully extend across the slot or way 16 and into the groove 35 far enough to compensate for lateral movement or adjustment of the runners 5 and 6 without liability of accidental release of the stalks engaged and pulled by the operation of the runners and endless chain or belt.

The endless chain carrying the blades or pulling devices 26 travels in a rearward direction, as indicated by the arrows, see Fig. 2, and the machine as an entirety is propelled forwardly with the row of stalks to be pulled alined in central relation to the throat 17. Owing to the downward and forward inclination of the runners 5 and 6 and the consequent disposition of the endless chain carrying the pulling devices, each stalk engaged by the pulling devices and passing into the slot or way 16 will have a pulling strain exerted thereon in a vertical direction, and as the machine continues to move forwardly the stalk will be regularly drawn upwardly from the ground and be carried backwardly and released at the rear of the machine and dropped behind the latter. Though the endless chain carrying the pulling devices moves upwardly and rearwardly, the movement of the same is so timed in relation to the forward movement or propulsion of the machine as an entirety that the pulling strain exerted on each stalk will be gradual without bending the stalk either forwardly or rearwardly, yet the withdrawal of the stalk will be expeditiously effected or will be carried on with a rapidity proportionate to the forward movement of the machine, which may be varied as desired and found necessary. It will be observed that the operation of the machine is practically based on the principle of the wedge. In its operation or work the machine will

be found exceptionally advantageous in that all parts of the stalks are withdrawn from the ground and by this means a subsequent cultivation of the tract or field from which the stalks are removed may be more satisfactorily pursued.

It is obvious that changes in the proportions, dimensions and minor details may be resorted to without departing from the principle of the invention.

What is claimed is:—

1. In a stalk pulling machine, the combination of a single wheeled axle, downwardly inclined runners supported on the axle and having an open space between the inner edge portions thereof, the lower ends of the runners bearing and forwardly movable on the ground surface over which the machine travels in advance of the axle, and pulling devices operatively carried by one of the runners and having portions extending across the open space into the inner edge portion of the remaining runner, said pulling devices being provided with successively arranged rearwardly converging pockets and transversely extending straight walls in front of the pockets.

2. In a stalk pulling machine, the combination of a single wheeled axle, downwardly inclined runners supported on the axle and having an open space between the inner opposing edges thereof, upstanding resilient arches spanning the open space between the inner edges of the runners and secured to the latter, and pulling devices operatively carried by one of the runners and having portions extending across the open space and engaging the remaining runner, the pulling devices being provided with successively arranged rearwardly converging pockets and transversely extending straight walls in front of the pockets.

3. In a pulling machine, the combination of downwardly inclined runners provided with propelling means and having an open space between them, and pulling devices movably coöperating with the runners and having portions extending into the open space and provided with successively arranged rearwardly converging pockets and transversely extending straight walls in front of the pockets.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY ASBELL.

Witnesses:

J. D. POWELL,
HIRST McCORMAC.