

No. 827,587.

PATENTED JULY 31, 1906.

S. WARNER.  
LAND ROLLER.

APPLICATION FILED MAR. 19, 1906.

2 SHEETS—SHEET 1.

Fig. 1

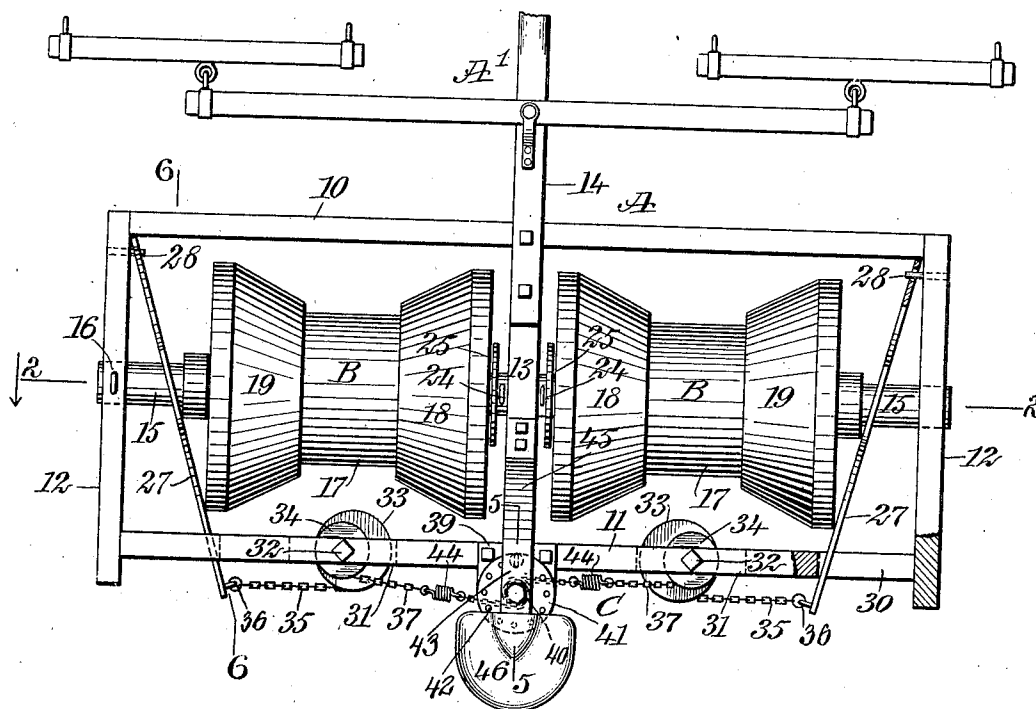
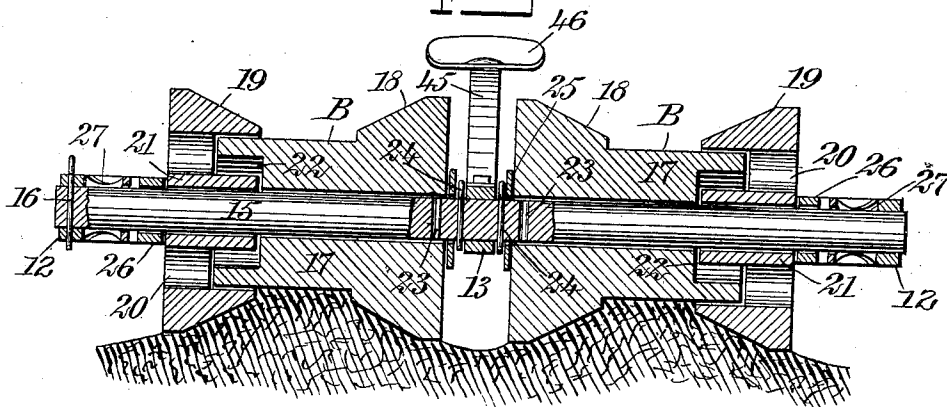


Fig. 2



WITNESSES:

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Fig. 3

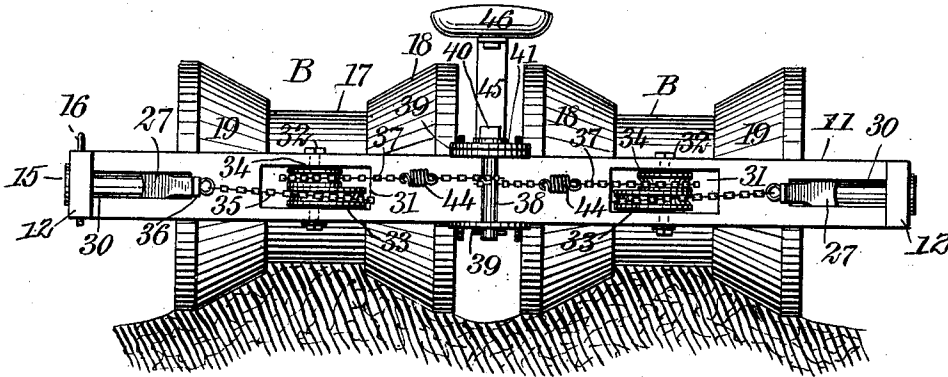


Fig. 4

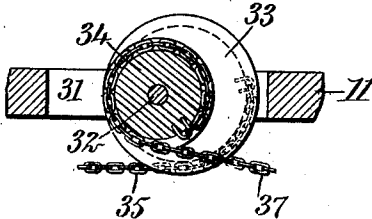


Fig. 5

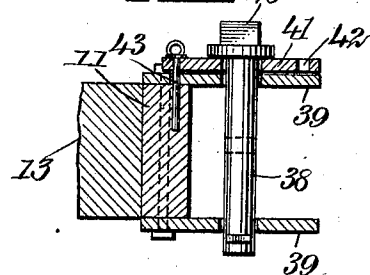
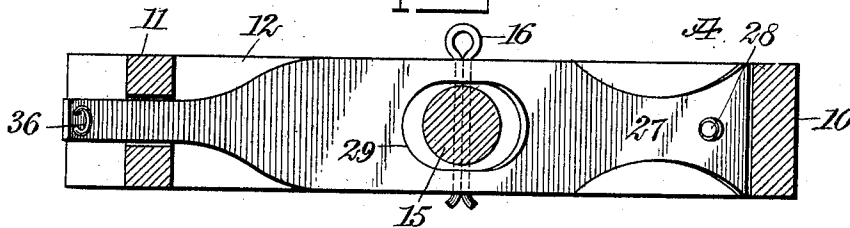


Fig. 6



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# UNITED STATES PATENT OFFICE.

SYLVESTER WARNER, OF WEST UNION, INDIANA.

## LAND-ROLLER.

No. 827,587.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed March 19, 1906. Serial No. 306,804.

*To all whom it may concern:*

Be it known that I, SYLVESTER WARNER, a citizen of the United States, and a resident of West Union, in the county of Parke and State of Indiana, have invented a new and Improved Land-Roller, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a roller especially adapted for rolling listed corn, being capable of operating upon two or more listed ridges.

A further purpose of the invention is to provide rollers especially adapted to the shape of the ridges and which will not only roll the top or crown of a ridge, but will also crush the earth at the side edges, where it is most needed.

Another purpose of the invention is to construct the rollers with an outer section independent of the body-section and slidable thereon, so that said outer sections by their movement upon the main sections will accommodate themselves to variations in the width of the ridges and also to provide tension-controlled regulating devices for the outer sections of the rollers which will overcome their tendency to crowd outward to compel them to act upon the edges of the ridges over which they pass.

Another purpose of the invention is to provide means for regulating the action of the controlling device upon the outer sections of the rollers, so that any needed tension can be obtained and so that the same pressure may be secured at all times on the outer sections of the rollers, thus preventing them climbing up upon the ridges when they reach their wide faces.

A further purpose of the invention is to provide simple and convenient means for adjusting the rollers bodily upon their supports to accommodate them to different-sized furrows made by different-sized listers.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improved roller, a part of the frame being broken away. Fig. 2 is a vertical longitudinal section taken on the line 2 2 of Fig. 1. Fig. 3 is a rear ele-

vation of the improved roller. Fig. 4 is a horizontal section taken through a portion of the frame and a sectional plan view of one of the tension-equalizing members, drawn upon an enlarged scale. Fig. 5 is a transverse section taken substantially on the line 5 5 of Fig. 1 and drawn also upon an enlarged scale, and Fig. 6 is an enlarged transverse section taken substantially on the line 6 6 of Fig. 1.

A represents the frame of the machine said frame being of skeleton construction, comprising a front beam 10, a parallel rear beam 11, and end beams 12, together with a central transverse beam 13, to which latter beam the pole 14 is secured, fitted with any suitable draft device A'. A shaft 15 extends from end to end of the frame, being passed through the central beam 13, and this shaft is held stationary in the frame in any approved manner—for example, by passing a cotter-pin 16 through one of its ends or through both of its ends and the frame, if required.

B represents the rollers, which are mounted to turn on the shaft 15. These rollers are of spool shape, and each consists of a cylindrical body-section 17, an inner conical head-section 18, secured to or integral with the body-section, and an outer conical opposing head-section 19, which outer sections 19 are free to slide to a limited extent on the body-sections 17 of the rollers, as is shown best in Fig. 2. These outer head-sections 19 are preferably provided with apertures 20, so as to render them more or less light, and are further provided at their hub or central portions each with a sleeve 21, and these sleeves are loosely mounted on the fixed shaft 15 and extend into chambers 22, produced in the outer end portions of the body-sections 17 of the rollers, as is also shown in Fig. 2. By thus constructing the rollers B they are enabled to accommodate themselves automatically to variations in the widths of the ridges, and the peculiar shape of the rollers enables them when traveling over ridges to crush earth at the sides of the ridges as well as at the top or crown of the ridges.

The fixed shaft 15 is provided with series of apertures 23 at each side of its center, and these apertures receive pins 24, which have bearing against washers 25, located between them and the opposing inner end portions of the rollers, so that by changing the position of the pins on the shaft 15 the rollers B may

be made to lie more or less closely to the central portion of the frame. Sleeves 26 are loosely mounted on the end portions of the fixed shaft 15, and these sleeves 26 engage with the outer end portions of the sliding outer end sections 19 of the rollers, and in connection with these outer end sections 19 combined regulating and tensioning mechanisms C are employed, applied through the medium of levers 27, the said levers being pivoted at their forward ends in the forward corner portions of the frames by pins 28 or their equivalents, and the rear ends of the said levers extend out through slots or openings 30 in corresponding portions of the rear member 11 of the frame, as is shown in Figs. 1 and 3, and each of the levers 27 is provided with an elongated opening 29 between its ends, through which openings the shaft 15 passes.

The regulating and tensioning mechanism C is as follows: An opening 31 is made in the rear member 11 of the frame at each side of the center of said member, as is shown in Fig. 3, and a pivot bolt or pin 32 is passed vertically through each of said openings 31. A peripherally-grooved pulley 33 is eccentrically and loosely mounted on the said pin, as is best shown in Fig. 4, and a smaller peripherally-grooved pulley 34 is attached to or formed integral with the upper face of each eccentric pulley 33. The smaller pulleys are concentric with relation to the bolts 32, as is also best shown in Fig. 4. Chains 35 are secured to the periphery of the eccentric pulleys 33, and these chains 35 are carried outward and are secured to the outer rear ends of the levers 27 by means of suitable eyes 36 or their equivalents. Chains 37 are attached to the periphery of the concentric pulleys 34, winding thereon in a contrary direction to the winding of the chains on the eccentric pulleys. The chains 37 from the concentric pulleys 34 are carried toward the center of the said rear member 11 of the frame and are attached to a post 38, mounted to turn in brackets 39, extending out from the top and bottom portions of the said rear member 11 of the frame, as shown in Figs. 3 and 5. This post 38 is provided with a polygonal head 40, so that it can be readily turned with a wrench or like tool, and at its upper portion, above the upper bracket 39, a disk 41 is secured to or made integral with the post, said disk having any desired number of apertures 42 therein, through which apertures a pin 43 is passed into the frame to hold the post in the position in which it may be set, and each chain 37 between its ends is provided with a spring 44 of any desired construction, as shown in Figs. 1 and 3, and in this manner the sliding end sections of the rollers are free to move outward, but are normally crowded inward, so that they will act at all times on the ridges over which they may pass and accommo-

date themselves to variations in the width of the ridges, and at the same time a uniform tension is exerted in an inward direction upon the said outer sections of the rollers, which tension may be increased or decreased at will, and this spring tension prevents the rollers from creeping up on the ridges.

A suitable seat 46 is located at the rear of the machine, supported by a spring-standard 45, attached usually to the central beam 13 of the frame.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In land-rollers, a support and a roller constructed in sections mounted to turn upon said support, one section being automatically adjustable relative to the other.

2. In land-rollers, a fixed shaft and a spool-shaped roller loosely mounted thereon, having one head slidably mounted upon the body-section.

3. In land-rollers, a fixed shaft, a spool-shaped roller loosely mounted thereon and constructed in sections, one of the head-sections being slidably mounted with reference to the body-section, and tension devices arranged to act upon the slidable section of the roller.

4. In land-rollers, a frame, a shaft fixed in the frame, a spool-shaped roller loosely mounted upon the shaft, which roller comprises a body and an attached head-section, and a second head-section mounted to slide on the shaft and on the body-section of the roller, a tension device operatively connected with the slidable section of the roller, and means for adjusting the degree of tension of the said device.

5. In a land-roller, a frame, a shaft fixed in the frame, a spool-shaped roller loosely mounted on said shaft, having one head fast to its body-section and the other head mounted to slide on said body-section of the spool and on the shaft, a lever pivoted in the frame, having engagement with the outer face of the slidable section of the roller, and a tension device carried by the frame and connected with the said lever.

6. In a land-roller, a frame, a shaft fixed in the frame, a spool-shaped roller loosely mounted on said shaft, having one head fast to the body-section of the spool and the other head mounted to slide on said body-section and on the shaft, a lever pivoted in the frame, having engagement with the outer face of the slidable section of the roller, a post located at the rear of the frame, a pivot-pin at one side of the post, a pulley eccentrically mounted on the said pin, a second and smaller pulley attached to the eccentric pulley and concentrically located with regard to the said pin, a chain connection between the eccentric pulley and the said lever, a chain-and-spring connection between the concentric pulley

and the said post, and a locking device for the post.

7. In a land-roller, a spool-shaped roller having one head independent of and mounted to slide and turn on the body of the roller.

8. In a land-roller, a frame, a shaft secured in the frame, a spool-shaped roller mounted to turn on the shaft, the said roller having its outer head independent of the body of the roller and mounted to slide and turn thereon and likewise on the shaft, a tension device for

the slidable section of the roller, and means for adjusting the roller in its entirety on the said shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SYLVESTER WARNER.

Witnesses:

SAMUEL T. AMES,  
PRIOR A. WARNER.