C. LEE.

DITCHING MACHINE.

APPLICATION FILED JULY 7, 1915.

1,182,779.

Patented May 9, 1916.

3 SHEETS—SHEET 1.

Fig. 1.

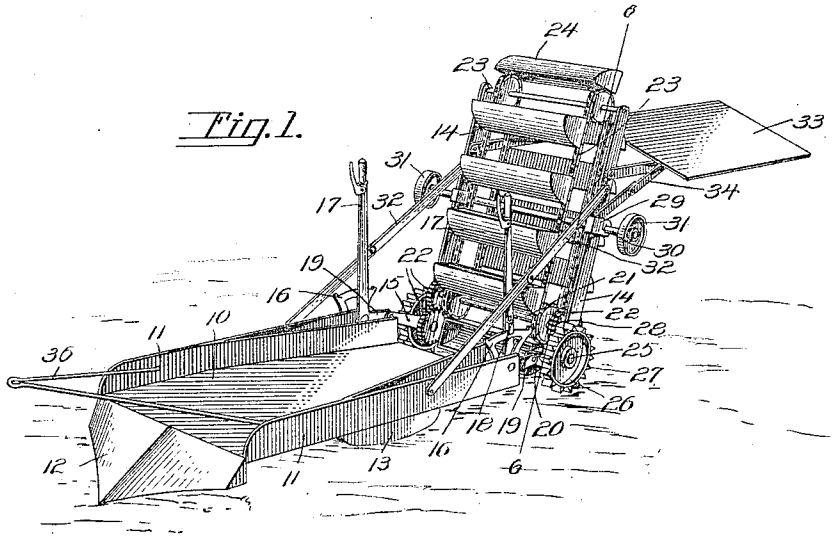
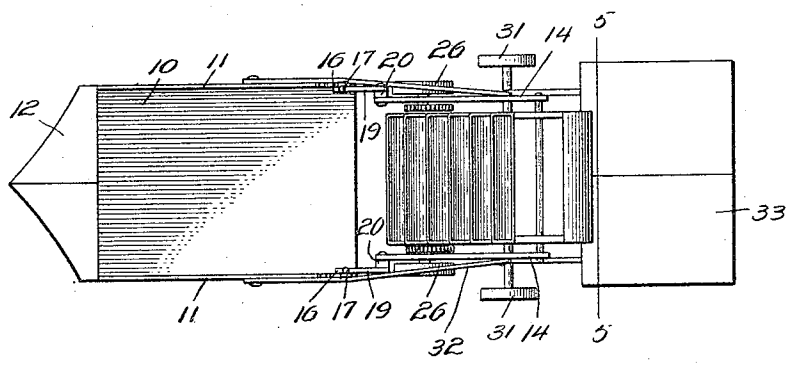


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

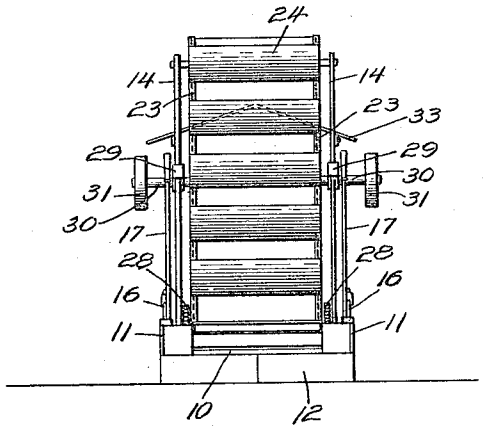
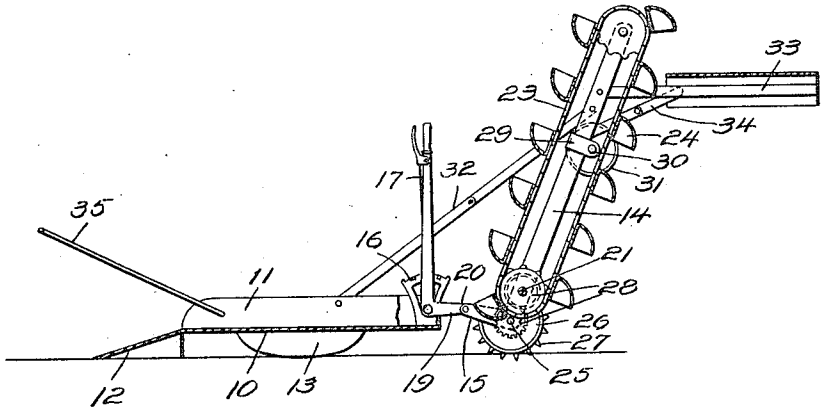


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

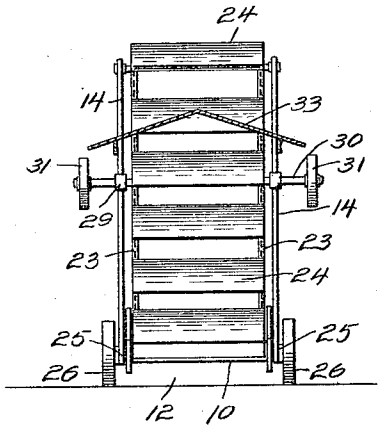
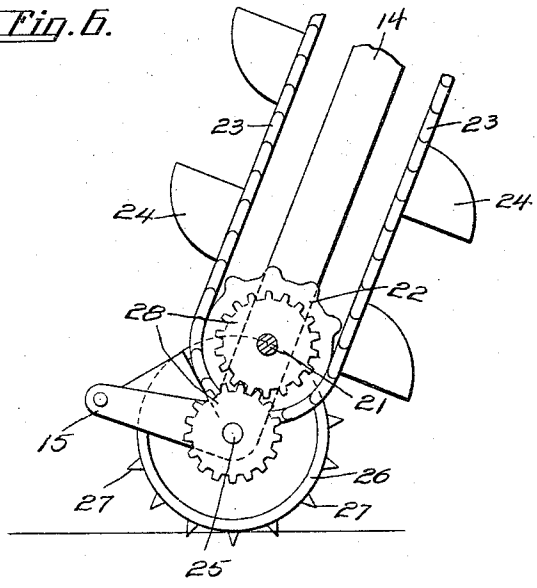


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLEY LEE, OF YOUNG HARRIS, GEORGIA, ASSIGNOR OF ONE-HALF TO WALTER CLOER, OF YOUNG HARRIS, GEORGIA.

DITCHING-MACHINE.

1,182,779. Specification of Letters Patent. Patented May 9, 1916.

Application filed July 7, 1915. Serial No. 38,469.

To all whom it may concern:

Be it known that I, CHARLEY LEE, a citizen of the United States, residing at Young Harris, in the county of Towns and State of Georgia, have invented new and useful Improvements in Ditching-Machines, of which the following is a specification.

The invention relates to a ditching machine and more particularly to the class of automatic ditchers.

The primary object of the invention is the provision of a ditching machine wherein the earth is cut to form the ditch and the loose earth is elevated and delivered onto the bank or banks as the occasion may require.

Another object of the invention is the provision of a machine of this character wherein the cutting point or tip is readily and easily adjusted for varying the angular disposition thereof to permit deep or shallow cutting of the earth when the machine is being advanced so as to vary the depth of the ditch.

A further object of the invention is the provision of a machine of this character wherein the construction thereof is novel in form to permit the convenient and quick formation of a ditch and the removal of all the loose earth therefrom as the machine is advanced.

A still further object of the invention is the provision of a machine of this character which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereunto appended.

In the drawings:—Figure 1 is a perspective elevation of a machine constructed in accordance with the invention. Fig. 2 is a top plan view thereof. Fig. 3 is a front elevation. Fig. 4 is a vertical longitudinal sectional view through the same. Fig. 5 is a sectional view on the line 5—5 of Fig. 2. Fig. 6 is a sectional view on the line 6—6 of Fig. 1.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawing in detail, the machine comprises a scoop-like body 10 formed with vertically disposed side flanges 11 and a cutting tip or point 12 at its front end which is forwardly inclined for cutting into the ground to loosen the earth, which is guided onto the body 10 rearwardly thereof. At opposite sides of the body 10 are downwardly arched runners 13 which are adapted to travel in the ditch or furrow during the advancement of the machine.

Rearwardly of the body 10 is a forwardly inclined elevator frame 14 formed with bearings 15 at its lower end and at substantially right angles thereto, while fixed to the rear end of the body 10 at opposite sides thereof are toothed sectors 16 to which are pivoted throw levers 17, each being provided with a spring-held latch dog 18 adapted to engage the teeth of the sector 16 to hold the lever in its adjusted position, and this dog is manually released for actuating the lever. On the levers 17 at their lower ends are right angular cranks 19 which are pivoted at 20 to the free ends of the bearings 15 so that the elevator frame and body are pivotally connected to each other. On adjusting the lever 17 the body 10 can be angularly adjusted so as to vary the pitch of the tip or point 12 for deep or shallow cutting of the earth to vary the depth of the ditch to be formed thereby.

Journaled in the sides of the elevator frame 14 near opposite extremities thereof are shafts 21 on which are fixed sprocket wheels 22 having trained thereover the endless chains 23 of an elevator, including a series of buckets 24 which are adapted to gather or collect the earth delivered thereto from the body 10 for lifting or elevating the same to the top of the elevator frame 14 for the discharge of loose earth in a manner presently described.

Journaled in the bearings 15 at the point of juncture thereof with the elevator frame 14 is an axle 25 on which are fixed ground wheels 26, the same being adapted to travel upon the bed of the ditch during the advancement of the machine, and the peripheries of these wheels 26 are formed with spikes 27 to prevent the slipping thereof on the bed of the ditch. The lowermost shaft 21 has connection with the axle 25 through the medium of gears 28 so that on the travel of the wheels 26 motion will be imparted to the chains 23, and in this manner the elevator is driven.

Slidably fitted in any suitable manner upon the sides of the elevator frame 14 are axle boxes 29 in which is journaled an axle 30 supporting wheels 31 which are adapted to travel upon the surface of the ground above the ditch or to travel upon the banks at opposite sides of the said ditch.

Connected to the side flanges 11 of the body 10, and to the sides of the elevator frame 14 are hinge jointed foldable braces 32 which permit the convenient folding of the elevator frame 14 onto the body 10 when the machine is not in use, and thereby enable the convenient transportation of the same when occasion requires. Swingingly connected for folding movement to the upper part of the elevator frame 14 is an inverted substantially V-shaped discharge platform 33 to which latter and the sides of the elevator frame 14 are connected hinge jointed foldable braces 34 which permit the folding of the platform 23 toward and onto the elevator frame. The particular formation of the platform 33 permits the dirt deposited thereon from the elevator to be discharged laterally from opposite sides of the said platform onto the banks at opposite sides of the ditch, thereby evenly distributing the earth or dirt cut from the ditch, the buckets 24 being designed to discharge the dirt onto the platform at the upper end of the elevator frame in successive order during the advancement of the machine. Connected to the forward end of the body 10 are draft rods 35 to which are adapted to be hitched the draft animals for the advancement of the machine.

From the foregoing description, taken in connection with the accompanying drawings, the construction and manner of operation of the device will be clearly understood, and therefore a more extended explanation has been omitted.

What is claimed is:—

A ditching machine comprising an elevator frame, an endless elevator supported in the frame and having buckets, L-shaped arms fixed to the lower end of the frame at opposite sides thereof, a scoop-like body forwardly of the frame and having a cutting tip at its forward end, toothed segments fixed to opposite sides of the body, bell crank levers pivoted to the segments and also pivoted to said arms, means on the bell crank levers and engageable with the segments for locking said levers in adjusted position to vary the angular disposition of the body, wheels journaled at the lower end of the elevator frame, break jointed braces pivotally connected to the body and the said frame, and wheels journaled on the frame spaced from the first named wheels.

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

CHARLEY LEE.

Witnesses:
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CLAUDE SANDERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."