(No Model.) 2 Sheets—Sheet 1.

J. TOOHEY.

DIRT CONVEYER AND GRADER.

No. 432,915. Patented July 22, 1890.

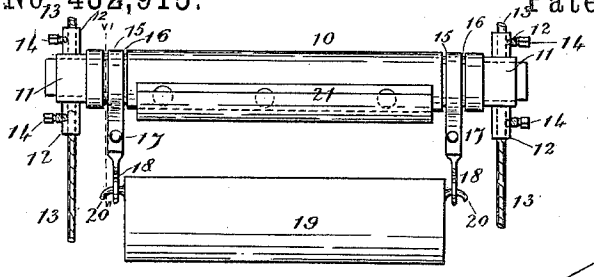


Fig. II.

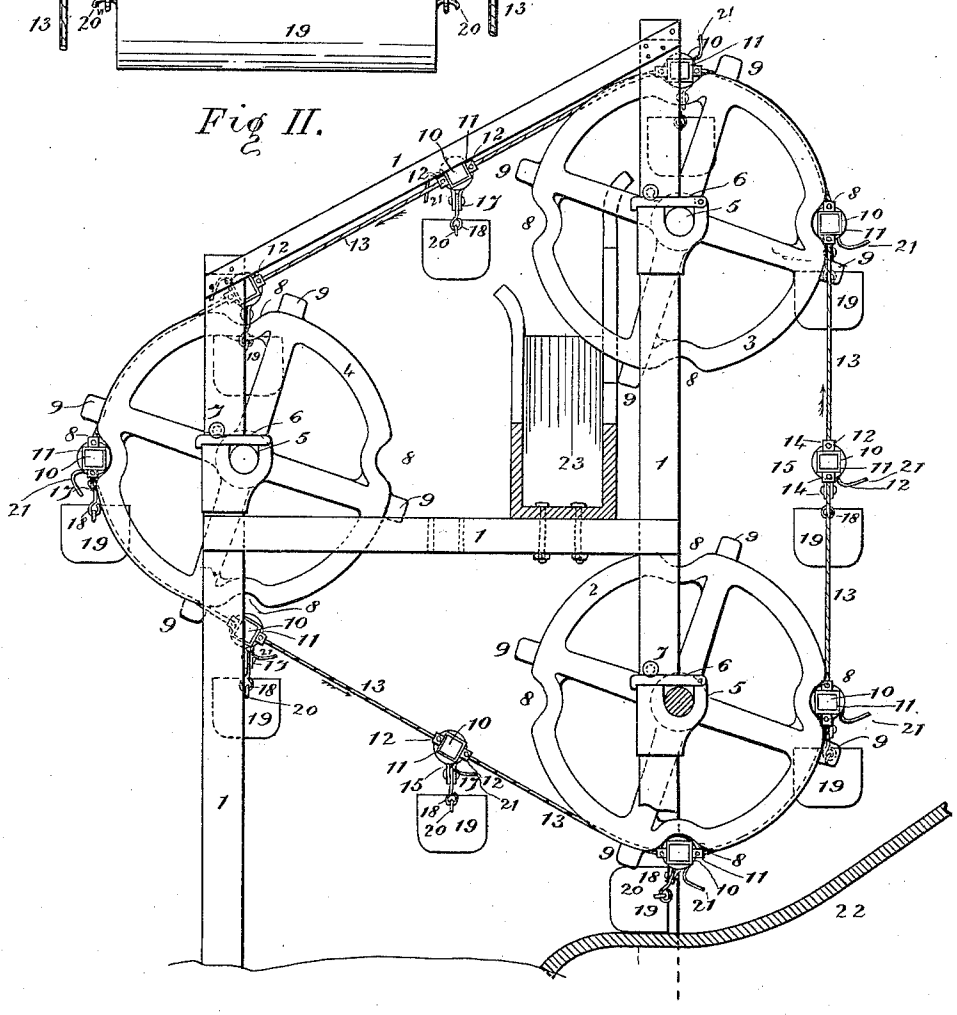


Fig. I.

Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. TOOHEY.

DIRT CONVEYER AND GRADER.

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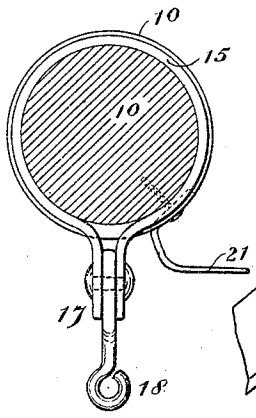


Fig VI.

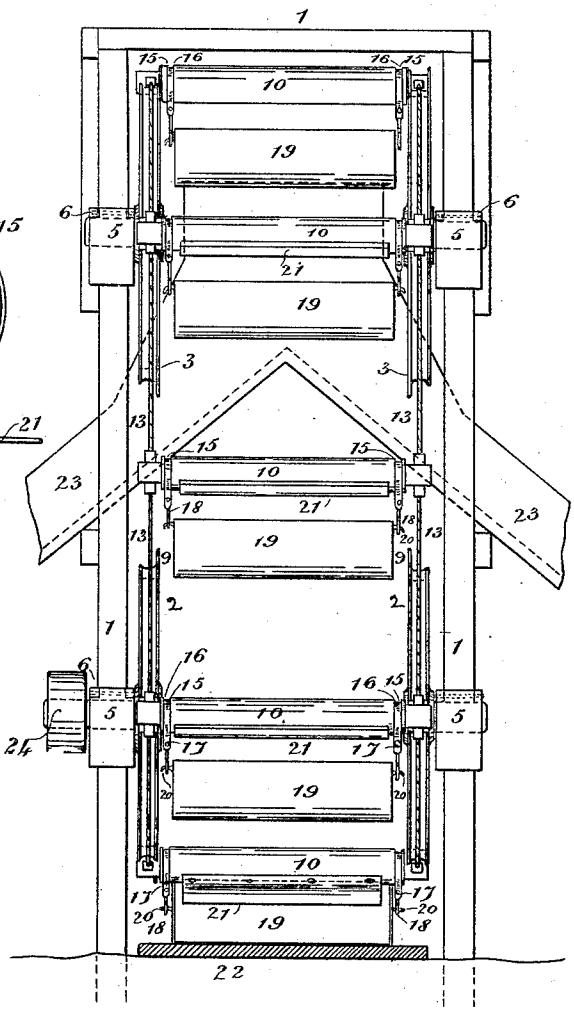


Fig. III.

Fig. IV.

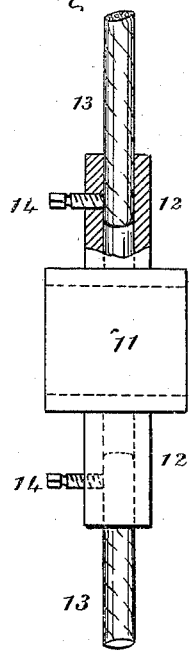
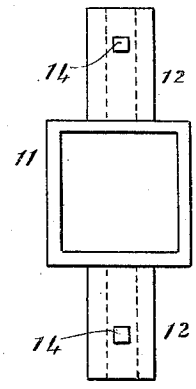


Fig. V.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES TOOHEY, OF KANSAS CITY, KANSAS.

DIRT CONVEYER AND GRADER.

SPECIFICATION forming part of Letters Patent No. 432,915, dated July 22, 1890.

Application filed August 14, 1889. Serial No. 320,692. (No model.)

To all whom it may concern:

Be it known that I, JAMES TOOHEY, of Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Dirt Conveyers and Graders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to an improved device for conveying and distributing dirt; and my invention consists in features of novelty hereinafter described, and pointed out in the claims.

Figure I is a side elevation of my improved device. Fig. II is a detail front view of an elevator bucket and attachments. Fig. III is a front elevation of my device. Fig. IV is a detail view of the boxing to which the bucket-supporting shafts are journaled, showing the manner of attaching the cable-links. Fig. V is an end view of the boxing. Fig. VI is an enlarged sectional view taken on line VI VI, Fig. II.

Referring to the drawings, 1 represents the supporting-frame.

2 3 4 represent pulleys journaled in adjustable sockets 5. These sockets are open on their upper sides, so that the pulleys may be removed at will.

6 represents links which extend across the opening in the sockets, one end being hinged thereto and the other end being held down by pins 7, which engage with the frame. The object of the links is to hold the shafts of the pulleys securely in their sockets until such a time as it is desired to remove the same.

Each of the pulleys is provided with a series of depressions 8 and a series of extensions 9.

The endless elevator is constructed as follows: 10 represents a series of shafts extending in a transverse direction, said shafts being secured at each of their ends to boxings 11, said boxings resting in the depressions 8 when they pass over the pulleys and are held to their proper position by the extensions 9. Integral with these boxings and extending for a short distance on each side of the same are sleeves 12. The cable is made up of a series of links 13, each of the links being attached at each of its ends to the sleeves 12 by means of set-screws 14. By this means an endless cable is quickly constructed and made of any desired length, (according to the distance it is desired to carry the dirt,) and if any section should strand or wear out another section may be easily substituted in its place.

15 represents metal bands which pass around the shafts 10 near their ends, said bands resting in grooves 16 in the shafts. The bands are provided with extensions 17, to which a series of hooks 18 are attached.

19 represents the dirt-carrying buckets, which are provided at each of their ends with supporting-pins 20, the pins 20 resting in the hooks 18, thus forming a connection between the buckets and the carrying-cable, so that the buckets hang pendent and have freedom of oscillation, which permits them to always assume an upright position. Each of the shafts 10 is provided with cutting-blades 21, which, in the case of hard lumps, cut them up and render the dirt in a fit condition to be taken up by the buckets.

22 represents a chute into which the dirt is deposited by steam-power or otherwise, as may be desired, and down which it slides by force of gravity until it comes into the proper position to be gathered up by the buckets 19.

The conveyer travels in the direction shown by arrows in Fig. I, and when the empty buckets come in contact with the lower end of the chute 22 the buckets will tip over on their sides, as shown in Fig. I, and as they are drawn along by the cable they will fill with dirt, a new supply of which is constantly sliding down the chute. The buckets, after being filled, pass up over the top pulley, always remaining in an upright position until they come in contact with the side of a distributing-chute 23, which tips the buckets, and the dirt is dumped into the chute and is conveyed to the point of distribution. The blades 21 will carry up more or less dirt, which will fall into the buckets after they have passed over the top pulley. The frame-work of the device may be lengthened out at will and the distributing-chute placed at a greater distance from the supply-point as the grading progresses. It is evident that the buckets will travel in their loaded condition until they come in contact with the side of the dis-

tributing-chute. Thus by moving the chute on its supporting-frame the dirt may be discharged at any point along the whole length of the frame.

24 represents a pulley by which the device may be driven.

It is evident that where the frame is of sufficient length and the dirt is being carried downhill the loaded buckets will be of sufficient weight to operate the device without any other motive power.

I claim as my invention—

1. In a dirt conveyer and grader, the combination of a suitable supporting-frame, bucket-supporting shafts 10, and pulleys supported in the frame, said pulleys being provided with depressions 8 and extensions 9 for the purpose of carrying and holding each end of the shafts 10 of an endless elevator in a level position, substantially as described, and for the purpose set forth.

2. In a dirt conveyer and grader, the combination of a suitable frame, the cable running over pulleys on the frame, the shafts secured to the cable, and buckets hanging pendent from the shafts with freedom of oscillation, whereby they always assume an upright position, substantially as and for the purpose set forth.

3. In a dirt conveyer and grader, the combination of a supporting-frame, pulleys journaled in the frame, an endless cable traveling on the pulleys, shafts 10, secured to removable boxings on the cable, bands 15, resting in grooves in the shafts, hooks 18, attached to the bands, and buckets 19, pivoted to the hooks, substantially as described, and for the purpose set forth.

4. In a dirt conveyer and grader, the combination of a supporting-frame, pulleys journaled in the frame, said pulleys having depressions 8 and extensions 9, an endless cable traveling on said pulleys, buckets attached to the cable, a supply-chute, and an adjustable discharge-chute, substantially as described, and for the purpose set forth.

5. In a dirt conveyer and grader, the combination of a supporting-frame, pulleys journaled in the frame, a cable on the pulleys, boxings secured to the cable, shafts 10, secured in the boxings, and blades 21, secured to the shafts, substantially as described, and for the purpose set forth.

6. The combination of the boxings 11, sleeves 12, sections of cable 13, and set-screws 14 in engagement with the sleeves and the sections of the cable for the purpose of connecting the same, substantially as described, and for the purpose set forth.

JAMES TOOHEY.

In presence of—
JAS. E. KNIGHT,
B. B. ELDRED.