

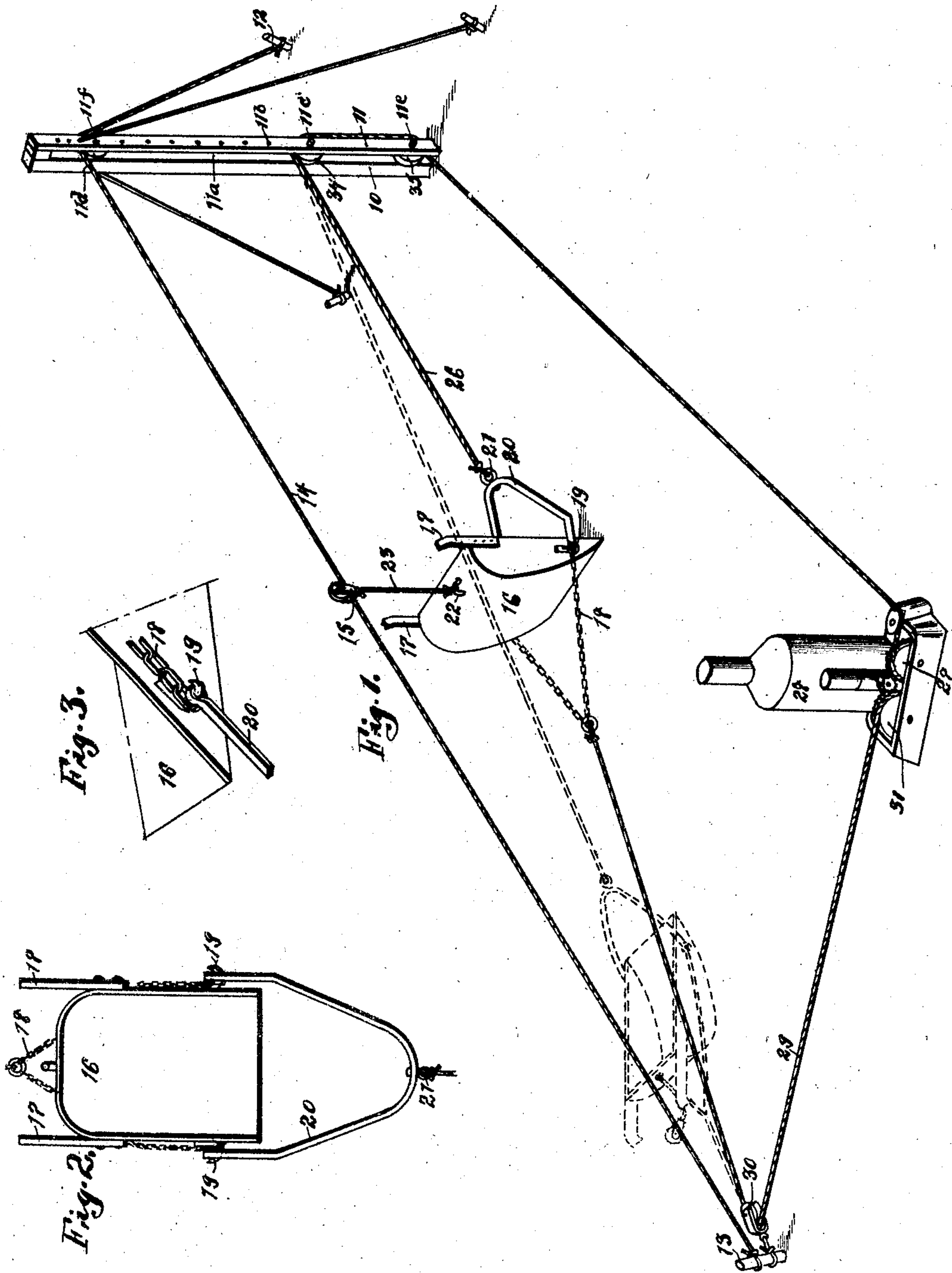
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W. S. DEIDRICH.
COMBINED DUMPING SCRAPER AND DUMPING DEVICE.

APPLICATION FILED NOV. 25, 1903.

NO MODEL.



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UNITED STATES PATENT OFFICE.

WILLIAM S. DEIDRICH, OF MACON, GEORGIA.

COMBINED DUMPING-SCRAPER AND DUMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 768,428, dated August 23, 1904.

Application filed November 25, 1903. Serial No. 182,637. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. DEIDRICH, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented a new and useful Combined Dumping-Scraper and Dumping Device, of which the following is a specification.

The objects of my invention are to provide a dumping device for scrapers of simple, durable, and inexpensive construction, to which the scraper can be easily and readily connected with and disconnected from at the pleasure of the operator.

A further object is to provide a dumping device which is designed to be attached to the ordinary scraper now in use, which will allow the scraper to be drawn forwardly a certain distance over the ground-surface, and thus cause it to be filled, and when the scraper reaches a certain predetermined point the dumping device will operate to raise the rear portion of the scraper upwardly and as the forward movement of the scraper is continued to swing the scraper from its horizontal into a vertical position, thus causing the earth which has been gathered by the scraper to be moved forwardly to a certain predetermined point and dumped at that point, thus automatically dumping the scraper and saving a greater part of the work which is ordinarily done by the operator who holds the scraper in position relative to the ground-surface.

A further object is to provide means for moving the scraper forwardly and rearwardly, whereby the scraper is filled, then drawn forwardly and dumped, and when dumped is drawn rearwardly to its point of starting.

The general purpose of the device is to provide a scraper which can be used for building an embankment which can be made to dump constantly at the same point without the assistance of an operator.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective the device in position for use, showing the means for drawing the scraper forwardly and rearwardly and the means for dumping the scraper. In this view the scraper is shown in the position in which it stands immediately after it has been dumped and in dotted lines in its position at the point of starting. Fig. 2 is a front elevation of the scraper in a dumped position; and Fig. 3 is a detail view of a portion of one side of the scraper, showing the hook to which the draft devices are attached.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate a post which is designed to be mounted in the ground some distance beyond the place where the dirt is to be dumped.

The reference-numeral 11 indicates a strip which is firmly attached to one side of said post and some slight distance away from it to form a slot 11^a between the exterior of the post and the interior of said strip. Extending through the strip is a series of openings 11^b, designed to admit the pins 11^c, 11^e, and 11^f. There is a series of openings extending into the post immediately inside and in line with the openings 11^b, so that as any one of the pins 11^c, 11^e, or 11^f is inserted into one of the openings 11^b it will pass into one of the openings in the post 10. Mounted on that portion of the pin 11^f which is inside of the strip 11 and the outside of the post 10 is a roller 11^d.

The reference-numeral 12 indicates a stake which is driven into the ground some distance outside of the post for the purposes herein-after made clear.

The reference-numeral 13 indicates a second stake, which is driven in the ground a considerable distance inside of the post 10 and some distance behind the point where the dirt which is to be removed lies. Firmly attached at one end to the stake 13 and extending forwardly and upwardly over the pulley 11^a is a cable 14, having its extreme forward end extending downwardly from the pulley 11^a to the stake 12, to which it is attached. The cable 14 is designed to be held rigidly in position and constantly kept taut by the stakes

12 and 13 and the pulley 11^d, so that from the pulley 11^d to its point of attachment the cable 14 is inclined downwardly. The pulley 11^d is thus mounted on the pin 11^f, so that by simply removing the pin 11^e the pulley 11^d can be raised or lowered to increase or diminish the slope of the cable 14 from said pulley to its point of attachment to the post 13. Thus by untying the cable from either of the stakes 12 and 13 and lengthening the cable the pulley can be raised upwardly, and thus the incline of the cable 14 will be increased between the pulley 11^d and the stake 13. Mounted on the cable 14 is a pulley 15, which is designed to move longitudinally of that portion of the cable which is between stake 13 and the upper portion of posts 10 and 11. This pulley is so arranged that it can be easily detached from the cable 14 at the pleasure of the operator.

I have provided a scraper or scoop 16, with which the grading is to be done. This scoop has the handles 17 attached to its rear upper portion and has a rounded bottom and sides and also has a sharpened forwardly end which is designed to engage the ground and cause the scraper to be filled with dirt as it moves forward over the ground-surface. Attached to each side of the scoop and extending rearwardly from its point of attachment to the scoop is a chain 18. To the chains 18 the device for drawing the scraper or scoop rearwardly is to be attached. Mounted on the hooks 19, to which the chains 18 are attached, is a bail 20, which is substantially semicircular in shape and extends from the pivotal point 19 on one side of the scraper, in front of the scraper, to the pivotal point 19 on the opposite side of the scraper. There is a loop 21, to which the draft device for drawing the scraper forwardly is attached, midway between the ends of the bail. At the rear upper portion of the scraper is a loop 22. Attached at one end to the pulley 15 and at its other end to the loop 22 is a rope 23, so arranged that when the pulley is at its lower limit of movement on the cable 14 the rope will hang loosely, but as the scoop moves forwardly over the ground-surface the rope 23 will cause the pulley 15 to move upwardly on the cable 14, and when the pulley reaches a point where the distance between the pulley and its point of attachment to the scraper 16 as the scraper lies on the ground-surface becomes greater than the length of the rope the rear end of the scraper will be drawn upwardly, and if the forward drawing force on the scraper 16 is continued the rear end of the scraper will be elevated and the scraper be allowed to swing from a horizontal to a complete vertical position and off the ground-surface entirely, and thus afford a complete dumping of the scraper. A further descrip-

tion of the scraper is deemed unnecessary, as it is of the ordinary construction.

When the scraper has been dumped, it is drawn rearwardly, and the pulley 15 moves rearwardly on the cable 14 to its point of starting.

It is to be understood throughout the entire description that forwardly means toward post and rearwardly means away from said post.

Preferably in use of my scraper a pulley 24 is mounted upon that portion of the pin 11^e which is between the strip 11 and post 10 is a pulley 24, and mounted on that portion of the pin 11^e which is between the strip 11 and the post 10 is a pulley 25. These pulleys 24 and 25, which are thus mounted on the pins 11^e and 11^e so that their position can be changed easily—that is, by removing the pin 11^e the pulley 24 can be moved upwardly or downwardly and the pin inserted into one of the openings either above or below in the position shown in Fig. 1 of the drawings. The same can be done with the pulley 25, if desirable. Detachably connected with the loop 21 is a cable 26, which passes over the pulley 24 and under the pulley 25 and is attached at its other end to a windlass, which is designed to be operated by a stationary engine 28, so that if the windlass is driven in one direction the cable will be wound up and the scraper will be drawn forwardly and as it is driven in the opposite direction the cable will be allowed to unwind. Preferably, also, I have attached a cable 29 to the rear ends of the pins 18, which is passed around the pulley 30, which is attached to the stake 13 and attached to the second windlass 31, which is connected with the engine 28 and which when rotated in one position will cause the cable 29 to be wound upon it, and thus the scraper will be drawn rearwardly, and when the windlass 31 rotates in the opposite direction the cable unwinds from said windlass. This windlass 31 is also driven by the engine 28. However, it is to be understood in this connection that a horse or other draft-animal can be attached by any device to the loop 21 and cause the scraper to be drawn forwardly, or the scraper may be drawn forwardly or rearwardly in any other desirable way.

In practical operation and assuming the parts in the manner above described and the scraper is in position adjacent to the stake 13 and the pulley 15, which is at its lower limit of movement, the engine is put into operation to wind the cable 26 upon the windlass 27, and thus draw the scraper forwardly. The scraper is generally designed to be guided by an operator who grasps the handle 17. If the scraper moves forwardly, the pulley 15 moves upwardly and forwardly on the cable 14 until it reaches a position where the rope 23 begins to draw the rear end of the scraper upwardly.

If the scraper is drawn forwardly some distance farther, the scraper will be drawn in a vertical position by means of the cable 14, the rope 23, and the pulley 15, and the substance on the interior of the scraper will be dumped. The second windlass, 31, is then set into operation to wind the cable 29 upon it and draw said scraper to its point of starting, and as it is drawn rearwardly the pulley 15 will move rearwardly and downwardly on the cable 14, and thus the scraper will take its normal position, as shown in dotted lines of Fig. 1 of the drawings. It will be seen that if it is desired to build an embankment it will be desirable to have the scraper drawn to the top of the embankment before it is dumped, and this is accomplished by adjusting the pulleys 11^d and 24. An inclined track may of course be used in place of the inclined cable 14, as the operation would be the same whether a tract or cable were used.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor is—

1. A scraper, means for drawing the scraper forwardly on the ground-surface, a track inclined relative to the ground-surface, means mounted on said track and connected with the rear of the scraper, designed to coact with the track to draw the rear of the scraper upwardly when the means reaches a certain predetermined point on the track as the scraper is drawn forwardly.

2. A scraper, a bail pivotally attached near the forward end of said scraper, means connecting said bail for drawing the scraper forwardly in a certain predetermined path, a track mounted above the scraper inclined relative to said path, a pulley mounted on said track, a rope connecting said pulley and the rear of said scraper, said rope, said pulley and said inclined track designed to coact with each other to dump the scraper as it is drawn forwardly.

3. A scraper, a bail pivotally attached near the forward end of said scraper, means connecting said bail for drawing the scraper forwardly in a certain predetermined path, a track mounted above the scraper inclined relative to said path, a pulley mounted on said track, a rope connecting said pulley and the rear of said scraper, said rope, said pulley and said inclined track designed to coact with each other to dump the scraper as it is drawn forwardly, and means connected with the scraper for drawing it rearwardly.

4. A scraper, means for moving the scraper in a predetermined path, means for automatically dumping said scraper, comprising a track diverging from said path, and a traveler moving on said track and connected with the rear of the scraper.

5. In a device of the class described, a cable attached at each end adjacent to the ground-

surface, the points of attachment being some distance from each other, means mounted adjacent to one of the points of attachment beneath the cable so arranged as to incline the cable from the top of said means to said points of attachment, a pulley mounted on the said cable, a scraper, a rope detachably connected with the rear of said scraper and with said pulley for the purposes stated.

6. In a device of the class described, a cable attached at each end adjacent to the ground-surface, the points of attachment being some distance from each other, means mounted adjacent to one of the points of attachment beneath the cable so arranged as to incline the cable from the top of said means to said points of attachment, a pulley mounted on the said cable, a scraper, a rope detachably connected with the rear of said scraper and with said pulley and means for drawing the scraper forwardly and rearwardly.

7. In a device of the class described, a cable attached at each end adjacent to the ground-surface, the points of attachment being some distance from each other, means mounted adjacent to one of the points of attachment beneath the cable so arranged as to incline the cable from the top of said means to said points of attachment, a pulley mounted on the said cable, a scraper, a rope detachably connected with the rear of said scraper, and with said pulley and draft devices pivotally attached to said scraper for the purposes stated.

8. In a device of the class described, a cable attached at each end adjacent to the ground-surface, the points of attachment being some distance from each other means mounted adjacent to one of the points of attachment beneath the cable so arranged as to incline the cable from the top of said means to said points of attachment, a pulley mounted on the said cable, a scraper, a rope detachably connected with the rear of said scraper and with said pulley means for drawing the scraper forwardly and rearwardly.

9. In a device of the class described, an inclined track, means for raising and lowering one end of said track, a pulley mounted on the track and designed to move longitudinally of it, a scraper, a rope connecting said pulley and said scraper, said track, said pulley and said rope being so arranged that when the pulley reaches a certain position on the inclined track as the scraper is drawn forwardly, the rope and pulley coacting with the track will cause the rear end of the scraper to be drawn upwardly.

10. In a device of the class described, a cable, means for supporting the cable in an inclined position, means for increasing or diminishing the incline of the cable, a pulley on said cable, a scraper designed to move beneath said cable, means for connecting the rear of said scraper with said pulley so arranged that as

the scraper is drawn forwardly the rear of it will be elevated.

11. In a device of the class described, a cable, means for supporting the said cable in an inclined position, a pulley designed to move longitudinally of said cable, a scraper means for connecting the rear of the scraper with said

pulley, draft devices pivotally attached near the forward end of said scraper and means for changing the inclined position of the cable.

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