

P. MAYER.
DREDGE BUCKET MOUNTING.
APPLICATION FILED JAN. 28, 1911.

998,789.

Patented July 25, 1911.
2 SHEETS—SHEET 1.

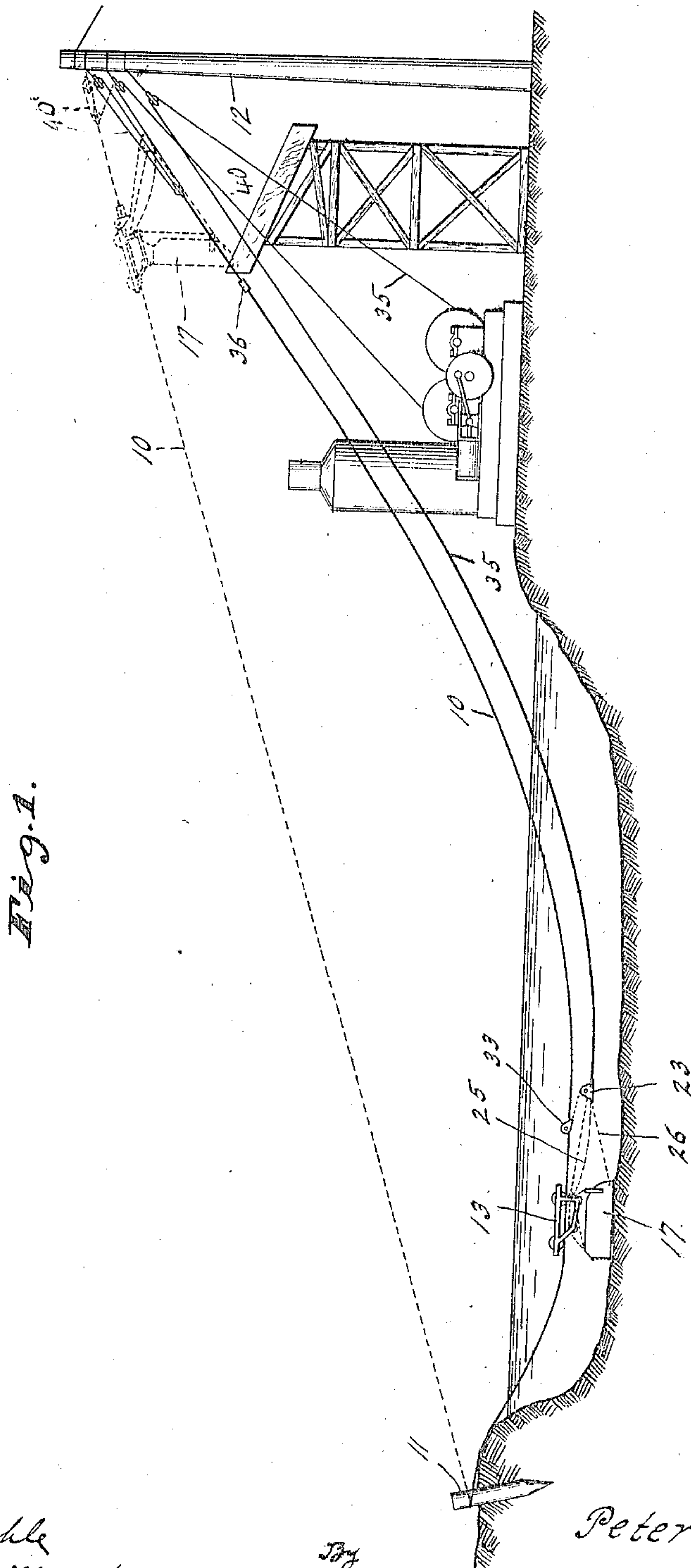


Fig. 1.

Witnesses
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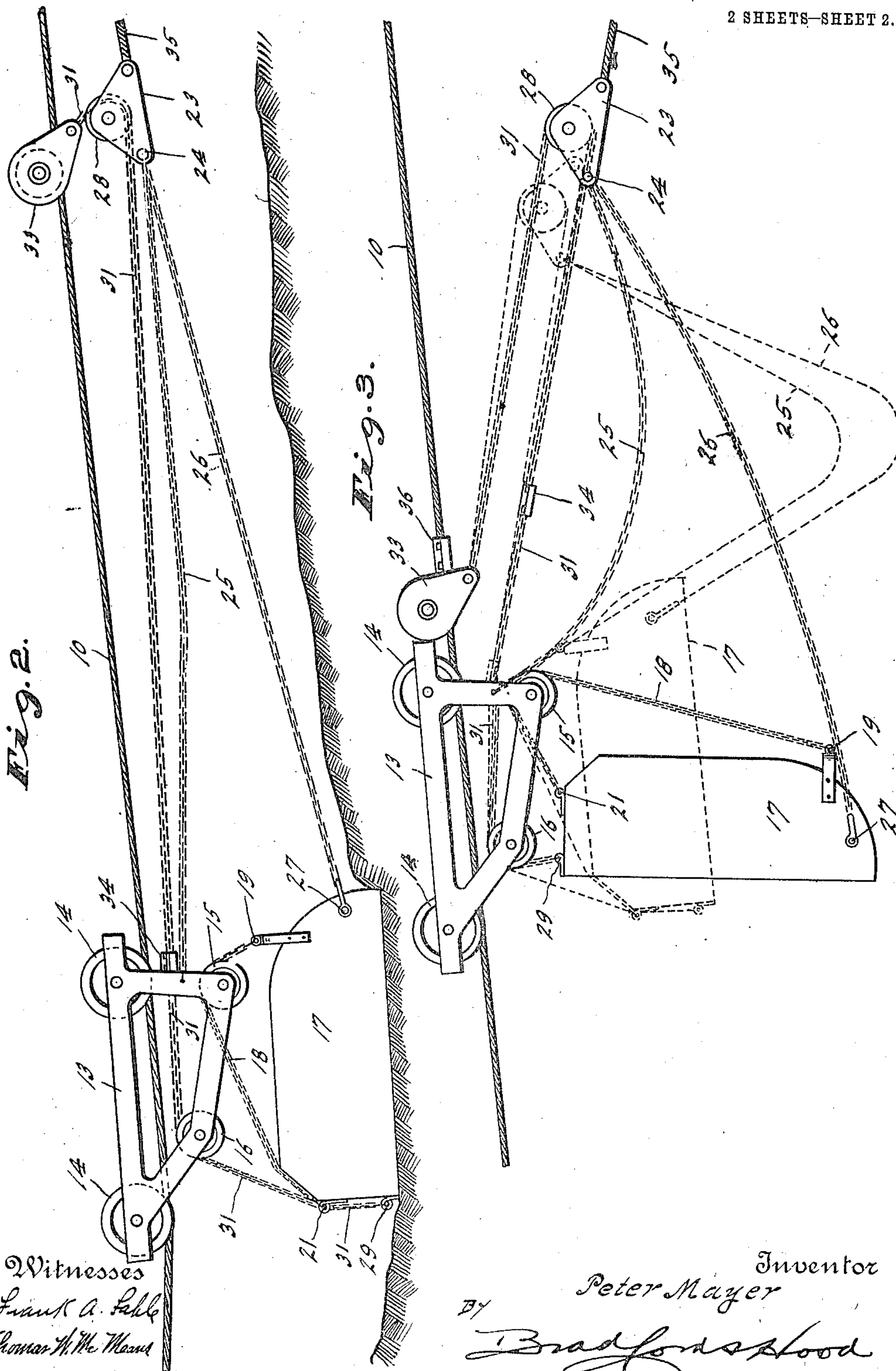
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

PETER MAYER, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF TO JESSE A. SWEARER, OF INDIANAPOLIS, INDIANA.

DREDGE-BUCKET MOUNTING.

998,789.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed January 28, 1911. Serial No. 605,323.

To all whom it may concern:

Be it known that I, PETER MAYER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Dredge-Bucket Mounting, of which the following is a specification.

The object of my invention is to produce a dredging apparatus by means of which dredging operations may be entirely controlled from a single point and the line of dredging action may be readily changed by the shifting of a single "dead man."

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation of the apparatus embodying my invention; Fig. 2 a side elevation of the dredging bucket and associated parts, on a larger scale, with the parts in load carrying position, and Fig. 3 a similar view with the parts in dumping position.

In the drawings, 10 indicates a main or traction cable extending across the pit in which the dredging is to take place, said traction cable being connected at its far end to a suitable dead man 11, and at its opposite end supported by a suitable mast 12. The support of cable 10 upon the mast 12 will be, as indicated in Fig. 1, an ordinary tauting mechanism comprising a pulling cable 40, by means of which the cable 10 may be alternately slacked and tightened, as indicated by full and dotted lines in Fig. 1. Slidably mounted on the traction cable 10 is a carriage 13 preferably provided with traction wheels 14, 14 resting upon the cable 10. Rotatably mounted upon a depending portion of the carriage 13 is a bucket supporting roller 15 and secured to the rear of the carriage 13 is a roller 16. The dredging bucket 17 which will be of any desired scoop form with an open forward end, is suspended by a pair of parallel chains (only one being shown) 18 connected at one end at 19 to the forward end of the bucket and the other end connected at 21 to the rear end of the bucket, these chains being supported upon the roller 15 and having a sufficient amount of slack as indicated. A pull block 23 lying below traction cable 10 has secured to it, at 24, the forward end of a chain or cable 25, the rear end of which is connected to the carriage 13. Also secured to the pull block 23 at the point 24

are two rearwardly and downwardly extending cables 26 (only one being shown) which diverge and have their rear ends connected at 27 to the lower forward corner of the bucket 17. It will be readily understood that instead of two chains 26, a bail may be secured to the forward end of the bucket and a single chain extended from this bail to the pull block 23. Rotatably mounted in pull block 23 is a roller 23. Secured at 29 to the rear lower corner of the bucket 17 is a chain or cable 31 which passes thence forwardly to and around roller 28 and thence rearwardly and connected to a roller block 33 slidably mounted on the traction cable 10 between the roller block 22 and the carriage 13. Secured to chain 31 is a button 34 which normally engages carriage 13 so as to prevent rearward movement of the chain 31 beyond the position indicated in Fig. 2. Under normal load carrying conditions, the roller block 33 lies comparatively close to the roller block 23.

The operation is as follows: When forward movement of the apparatus upon the traction cable 10 is obtained by means of a pull exerted upon the cable 35 attached at its rear end to the pull block 23, the parts will assume the positions indicated in Fig. 2 and if the bucket is dragged along the ground it will become filled with dirt, a major portion of the weight within the bucket lying to the rear of pulley 15, so that button 34 is held against carriage 13. When the filled bucket reaches a point where dumping of its load is desired, the roller block 33 will be brought into engagement with a stop 36 adjustably clamped on the cable 10. Thereupon further forward movement of the pull block 23 will serve to draw the carriage 13 forwardly by pull on chain 31, the weight in the bucket being sufficient to hold the bucket in its load retaining position until the carriage 13 is drawn up against the roller block 33, whereupon further forward movement is prevented, this forward movement of the carriage taking place at a speed double the speed of previous forward movement. Further pull upon the pull block 23 draws cable 31 forwardly over the pulley 16 and this shoves the bucket forwardly and pulls its rear end upwardly so that its forward end may descend and dump the load. When pull upon cable 35 is released, the apparatus will descend of its own weight on

cable 10, and, upon the next forward pull upon cable 35, the engagement of the forward end of the bucket with the ground will cause the parts to resume their normal position.

I claim as my invention:

1. In a dredging apparatus, the combination with a main cable, of a bucket carriage mounted thereon, a bucket pivotally mounted on the carriage by means of a loose cable secured at its ends to longitudinally spaced points on the bucket and passed thence over a support on the carriage, a pull block, a connection between said pull block and the forward end of the bucket, a connection between said pull block and carriage, a dumping cable connected to the rear end of the bucket and passed from thence forwardly over the support on the carriage to and around a support on the pull block, a sliding block mounted upon a main cable and connected to the forward end of the last mentioned cable, means for limiting the forward movement of said sliding block upon the main cable, and means for limiting the rearward movement of the cable relative to the carriage.

2. In a dredging apparatus, the combination with a main cable, of a bucket carriage mounted thereon, a bucket pivotally mounted on the carriage by means of a loose cable secured at its ends to longitudinally spaced points on the bucket and passed thence over a support on the carriage, a pull block, a connection between said pull block and the forward end of the bucket, a dumping cable connected to the rear end of the bucket and passed from thence forwardly over the support on the carriage to and around a support on the pull block, a sliding block mounted upon a main cable and connected to the forward end of the last mentioned cable, means for limiting the forward movement of said sliding block upon the main cable, and means for limiting the rearward movement of the cable relative to the carriage.

3. In a dredging apparatus, the combination with a main cable, of a bucket carriage mounted thereon, a bucket pivotally mounted on the carriage, a pull block, a connection between said pull block and the forward end of the bucket, a connection between said pull block and carriage, a dumping cable connected to the rear end of the bucket and passed from thence forwardly over the support on the carriage to and around a support on the pull block, a sliding block mounted upon a main cable and connected to the forward end of the last mentioned cable, means for limiting the forward move-

ment of said sliding block upon the main cable, and means for limiting the rearward movement of the cable relative to the carriage.

4. In a dredging apparatus, the combination with a main cable, of a bucket carriage mounted thereon, a bucket pivotally mounted on the carriage, a pull block, a connection between said pull block and the forward end of the bucket, a dumping cable connected to the rear end of the bucket and passed from thence forwardly over the support on the carriage to and around a support on the pull block, a sliding block mounted upon a main cable and connected to the forward end of the last mentioned cable, means for limiting the forward movement of said sliding block upon the main cable, and means for limiting the rearward movement of the cable relative to the carriage.

5. The combination of a main cable, a bucket carrier slidably mounted on said main cable, a scraper bucket pivotally mounted on said carrier, a pulling cable for pulling the bucket along the main cable, and means operated by continuous forward movement of the pulling cable for tilting the bucket forwardly on its pivotal support.

6. The combination of a main cable, means for slacking and tauting the same, a bucket carrier slidably mounted on said main cable, a scraper bucket pivotally mounted on the carrier, a pulling cable for pulling the bucket along the main cable, and means operated by the continued forward movement of the pulling cable for tilting the bucket forwardly on its pivotal support.

7. A main cable, means for slacking and tauting the same, a carriage traveling thereon, a scraping and dumping bucket suspended therefrom, draft and dumping lines connected with the bucket, a block running on the main cable connected with said dumping line, and a stop, whereby the travel of the block is arrested and the bucket dumped.

8. A main cable, a carriage traveling thereon, a scraping and dumping bucket suspended therefrom, draft and dumping lines connected with the bucket, a block running on the main cable connected with the dumping line, and a stop, whereby the travel of said block is arrested and the bucket dumped.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this twenty-first day of January, A. D. one thousand nine hundred and eleven.

PETER MAYER. [L. S.]

Witnesses:

ARTHUR M. HOOD,

THOMAS W. McMEANS.