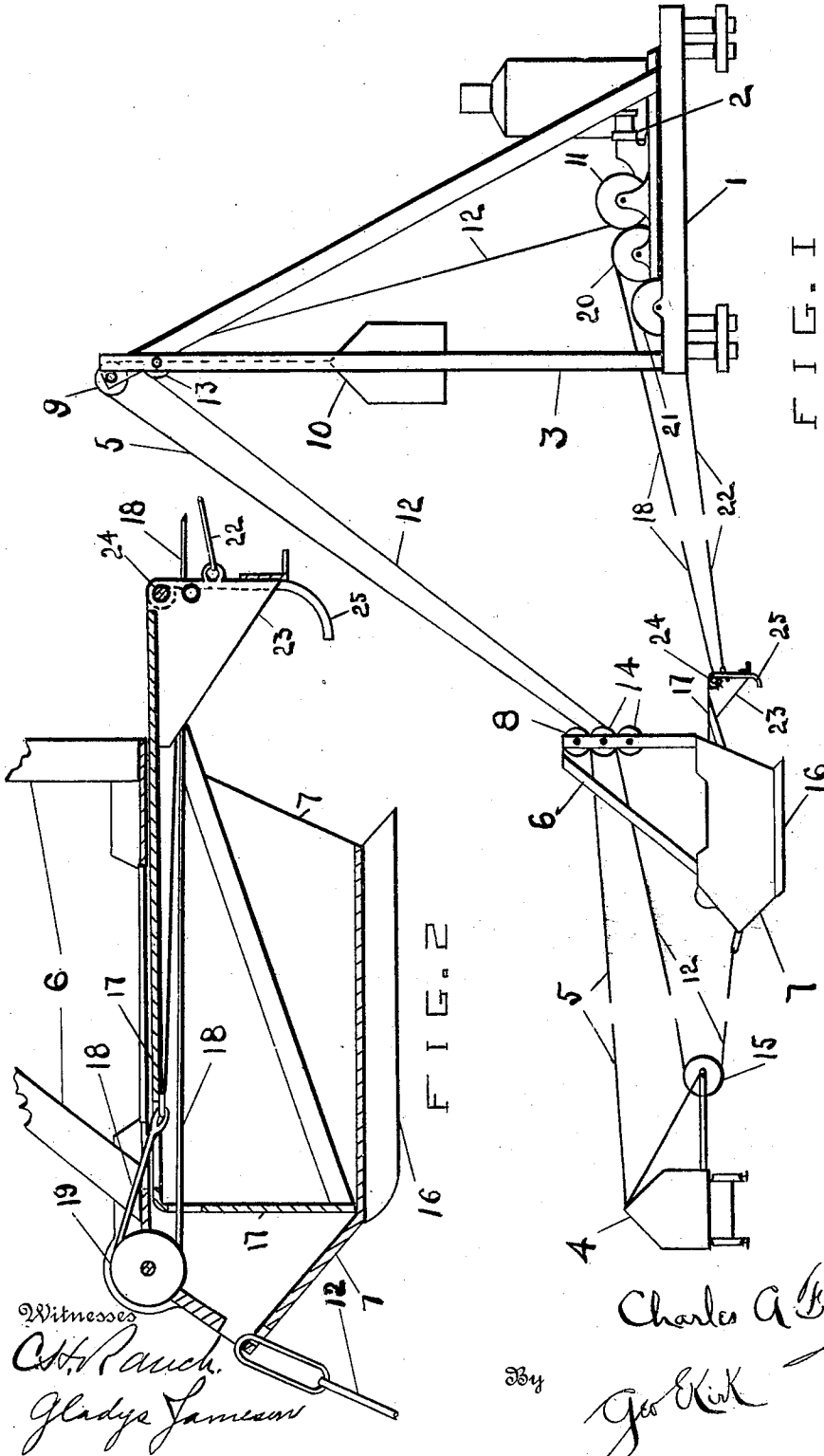


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TELESCOPIC BUCKET.
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977,608.

Patented Dec. 6, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

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TELESCOPIC BUCKET.

977,608.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. FRAYER, a citizen of the United States, residing at Toledo, Lucas county, Ohio, have invented new and useful Telescopic Buckets, of which the following is a specification.

This invention relates to a material handling receptacle and the mechanism for using the same.

This invention has utility in buckets and their control, especially when adapted to excavators of the drag line type.

Referring to the drawings: Figure 1 is a side elevation of an embodiment of the invention in a drag line material handling device; and Fig. 2 is a longitudinal medial section of the bucket.

Mounted on the platform 1 is the prime mover 2 and the mast 3. Remote from the mast and beyond the material to be moved, is the dead-man or anchor 4 connected by guide line 5 passing through the uprights 6 of the bucket 7. This line 5, from about guide 8 in uprights 6, extends over guide 9 on the mast 3 to the counterweight 10, to continuously and automatically adjust the guide line 5 for the bucket 7.

Driven by prime mover 2 is the drum 11, connected to return line 12, passing over guide 13 in the mast 3, between guides 14 in bucket uprights 6, about the guide 15 held by the anchor 4, to the bucket 7. To guide the bucket 7 in its drag travel, as well as to loosen up the material for subsequent fillings of the bucket, guide or scoring vanes 16 extend longitudinally of the bucket bottom.

Reciprocable within the body bucket section 7 is the bucket section 17 operable to expel material from the bucket. Connected to the after portion of this bucket section 17 is the line 18, having a bight thereof extended about the guide 19 carried by the body section 7. This drag line 18 from thence extends out through the forward end of the bucket to drum 20. Drums 20 and 21 may be actuated independently from the prime mover 2. From drum 21 extends the second drag line 22 to the forward extension 23 of the expelling bucket section 17. By means of the pivot bar 24 being inserted in different openings in extension 23, the cut regulator 25 may be adjusted to graduate the depth of working of the bucket into the material. This regulator or shoe in the fill-

ing of the bucket, is braced by swinging against the downwardly extending portion of the extension 23. In the dumping of the bucket, this cut regulator is free to swing away from the bucket and allow of free discharge of material.

In operation, the expelling section of the bucket is drawn into material retaining position by the drag line 18. By the return line 12, the bucket 7 is actuated along the guide line 5 to such point toward the anchor 4 as may be desired, the lines 18 and 22 paying out freely. For filling, drag lines 18 and 22 may be pulled in unison, or drag line 18 may take the major portion of the work. At any point where it is desired to have material discharged from the bucket, the relative travel of the line 22 may be caused to exceed that of the line 18, thus placing the drag load on line 22 to haul bucket section 17, while taking off the load on line 18 allowing the bight of this line about guide 19 to slack for the falling behind of section 7. Section 17 accordingly passes through the section 7 to positively remove the material from the bucket. To save time, the return line may be at once applied, with slack for free paying out of drag lines 18, 22, to get the bucket into position for re-filling. Then in hauling line 18 taut, the bucket is assembled for loading.

In grading, leveling off, or variously disposing material, this device is of exceptional value, for the point of bucket discharge may be varied at will over the full range of travel, and this by the simple expedient of differential drag line control. With all connections to the bucket within the normal bucket width, close lateral working may be had clearing out, as close against walls.

What is claimed and it is desired to secure by Letters Patent is:

1. A bucket comprising a body section, a material expelling section movable through said body section, a guide carried by one of the sections, and a drag line about said guide and connected to the other section to assemble said sections in material retaining position.

2. A bucket comprising relatively movable sections, a guide carried by one of the sections, and a drag line about said guide and connected to a second section to assemble said sections in material retaining position.

3. A bucket comprising a body section, a

material expelling section movable relatively to said body section, a guide carried by one of the sections, and a drag line about said guide and connected to the other section to
 5 separate and assemble the sections.

4. A bucket comprising a body section and a material expelling section movable relatively to said body section, in combination with independently operable drums, flexible
 10 means from the sections to the drums, said means independently operable by said drums to effect relative travel of the sections, and a guide carried by one of the sections and about which the flexible means to the other
 15 section extends.

5. A bucket comprising a body section, a material expelling section, a guide carried by one of the sections, and independently operable flexible means effective to cause relative
 20 travel of the sections, and means having a portion extending about said guide.

6. A bucket comprising a body section, and a material expelling section, in combination with line connections to one of the sections, a guide carried by the other section
 25 and over which guide a bight of said line connections extends and controlling means for the connections.

7. A bucket comprising a body section, and a relatively movable material expelling
 30 section, in combination with drag line connections to one of the sections, a guide carried

by the other section and over which guide a bight of said drag line connections extends and controlling means for the connections.
 35

8. A bucket comprising a body section, and a material expelling section, in combination with line connections to the expelling section, a guide carried by the body section
 40 and over which guide a bight of said line connections extends and controlling means for the connections.

9. A bucket comprising a body section, and a material expelling section, in combination with a guide carried by one of the sections, a drag line connected to the other section and having a bight extend over the guide
 45 and controlling means for the line.

10. The combination with a bucket having
 50 a digging end, of a cut regulator in advance of said end, said regulator comprising a member and a stop, said member having a horizontal pivotal mounting adjacent the upper front edge of the bucket permitting
 55 free swinging of the member toward and from the stop, which stop limits the travel of the member toward the bucket.

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

CHARLES A. FRAYER.

Witnesses:

GEO. E. KIRK,
 GLADYS JAMESON.