No. 803,118. PATENTED OCT. 31, 1905.

J. LINDSTROM.

CLAM SHELL BUCKET.

APPLICATION FILED MAY 1, 1905.

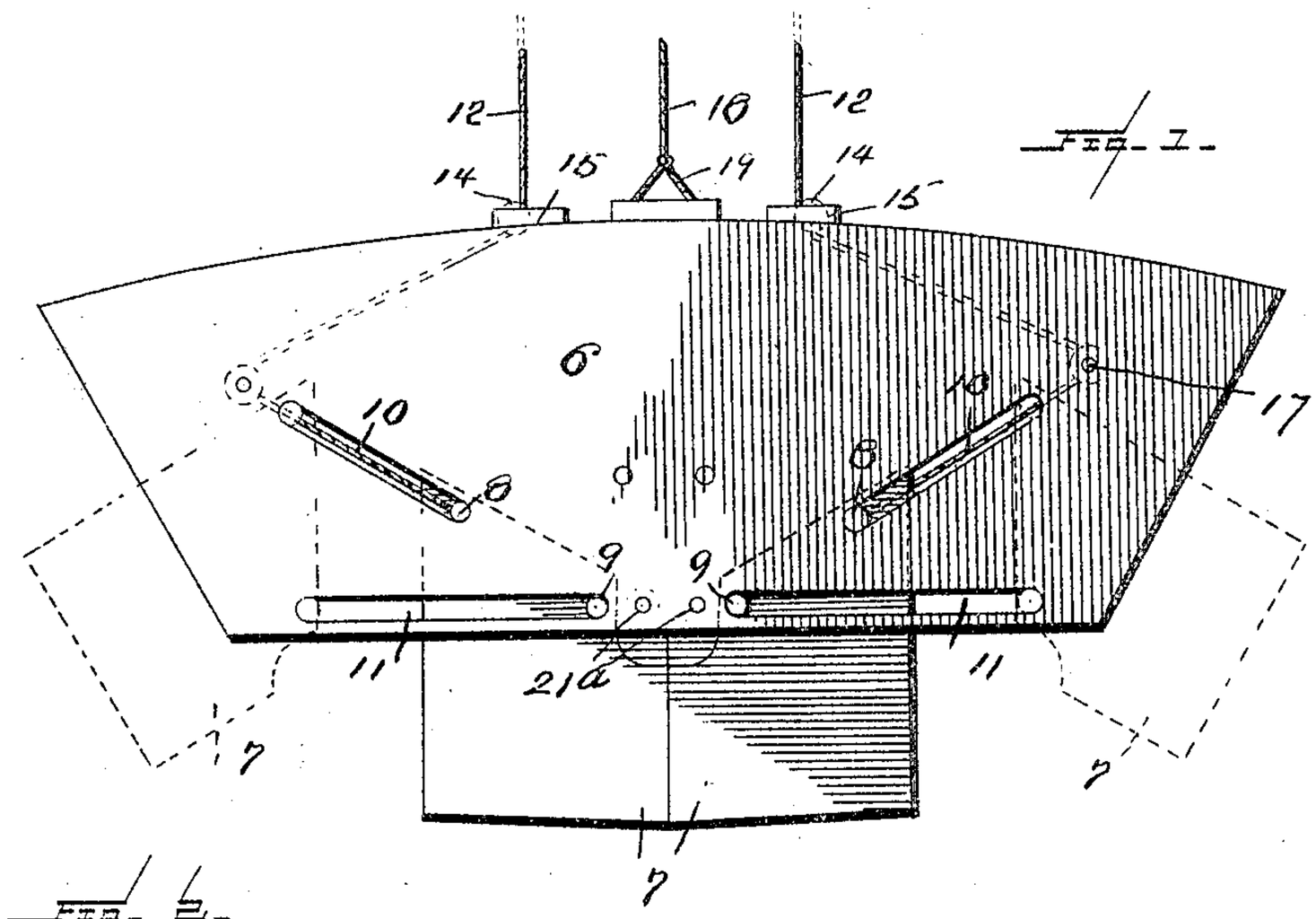

Fig. 1.

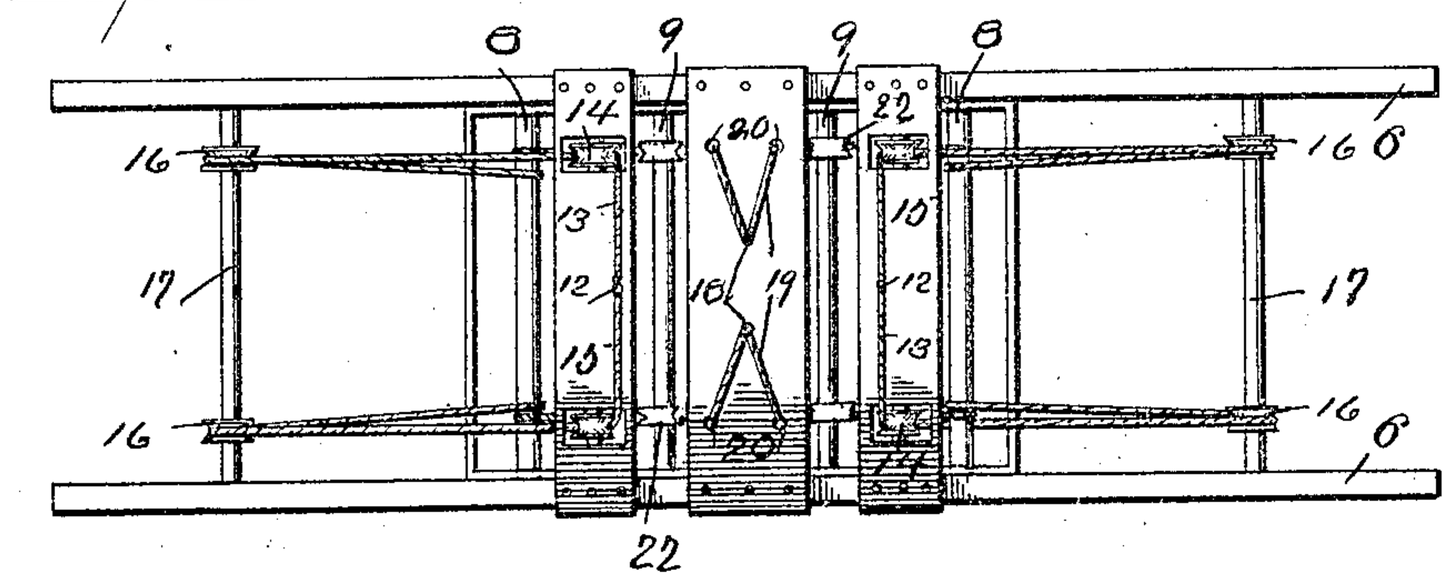

Fig. 2.

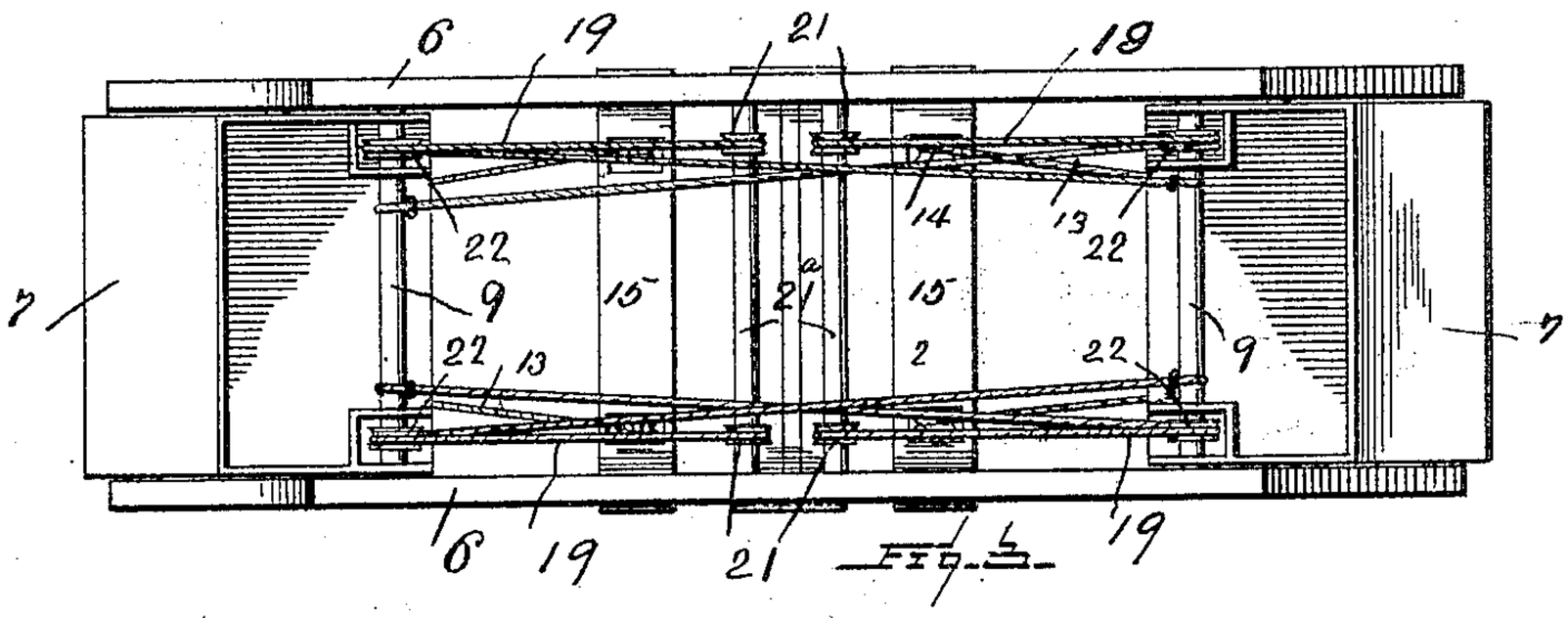

Fig. 3.

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UNITED STATES PATENT OFFICE.

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CLAM-SHELL BUCKET.

No. 803,118. Specification of Letters Patent. Patented Oct. 31, 1905.

Application filed May 1, 1905. Serial No. 258,156.

To all whom it may concern:

Be it known that I, JOHN LINDSTROM, a citizen of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented new and useful Improvements in Clam-Shell Buckets, of which the following is a specification.

This invention is an excavating and hoisting bucket of the clam-shell type.

The object of the invention is to make an improved bucket of the kind suitable particularly for loading and unloading and characterized by simplicity and cheapness and ability to pick up a large amount of material in proportion to its weight.

In the accompanying drawings, Figure 1 is a side elevation of the bucket. Fig. 2 is a top plan view of the bucket closed. Fig. 3 is an inverted or botton plan view with the bucket open.

Referring specifically to the drawings, 6 indicates two side plates, between which swing the buckets 7. These buckets are hung between the plates upon cross-shafts or rollers 8 and 9, the ends of which project beyond the sides of the buckets into slots 10 and 11, respectively, so that they will roll or slide in said slots. The upper slots 10 are inclined inwardly and downwardly, as shown, and the lower slots 11 are horizontal. The angle of the slots 10 and 11 with respect to each other is such that when the buckets are drawn back or opened they swing to the dumping position and when they are drawn together they swing so that their edges contact to close the buckets.

The pair of suspension-cables is indicated at 12, and each cable divides into two branches 13, which extend around pulleys 14 in a cross-piece 15 between the side plates 6 and thence around pulleys 16 to connect with the roller-shaft 8. The pulleys 16 are mounted upon a bar 17, extending across between the side plates, near the ends thereof.

The hoisting and closing cables are indicated at 18, each of which divides into branches 19, which work through holes in a cross-piece 20 at the top of the frame and extend thence down around pulleys 21 on cross-shafts 21^a, located near the middle of the side plates at the bottom thereof and between the ends of the slots 11, and thence around pulleys 22 on the shaft 9, and thence across to the opposite shaft 9, to which the ends are secured.

In operation to load the bucket pull on the cables 18 draws the buckets toward each other, and the relative angular inclinations of the slots 10 and 11 causes the buckets to swing down and in to the closed position. The pull is very efficient, the shafts 9 moving in a horizontal plane practically parallel to the pull on the ropes, and inasmuch as the ropes are crossed from one shaft 9 to the other the pull on both is equal. When loaded and hoisted, the bucket is dumped by releasing the hoisting-cables in the usual manner, the weight drops on the suspension-cables 12, which by reason of their extension around the pulleys 16 pull the buckets apart, and the inclination of the slots causes the buckets to tilt and dump in the manner indicated in dotted lines in Fig. 1. The connections are all very direct and simple and a very efficient device is produced.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with side frames having guides therein, of a pair of buckets having projections slidable in the guides, and means to move the buckets to and from each other, to open and close the same, the guides being inclined to tilt the buckets as they are opened or closed.

2. The combination with side frames having slots therein inclined toward each other, of a pair of buckets hung to swing between the frames and having projections in the slots, and hoisting and suspending cables connected to the buckets and extending oppositely therefrom, to close and open the same.

3. The combination with side frames each of which has in each side a pair of slots which converge toward the middle, of a pair of buckets hung between the frames, each of which has a projection working in each of the slots, pulleys located at the bottom of the frames between the buckets, hoisting-cables extending over said pulleys and connected to the buckets, to close the same, pulleys located near the outer ends of the frames, and suspension-cables extending thereover and connected to the buckets, to open the same.

4. The combination with side frames each of which has in each side thereof a lower substantially horizontal slot and an upper slot inclined downwardly toward the middle, of a pair of buckets hung between the frames, shafts extending across the top of each bucket at the front and rear thereof and projecting

beyond the sides thereof into the respective slots, suspension-cables connected to the rear shafts and extending over guides rearwardly therefrom, to open the buckets, and hoisting-cables extending around the front shaft of one bucket and crossed to connection with the front shaft of the other bucket and over guide-pulleys at the middle of the frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN LINDSTROM.

Witnesses:
WM. CULKIN,
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