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W. LOUDEN.
ELEVATOR AND CARRIER.
APPLICATION FILED SEPT. 18, 1905.

2 SHEETS—SHEET 1.

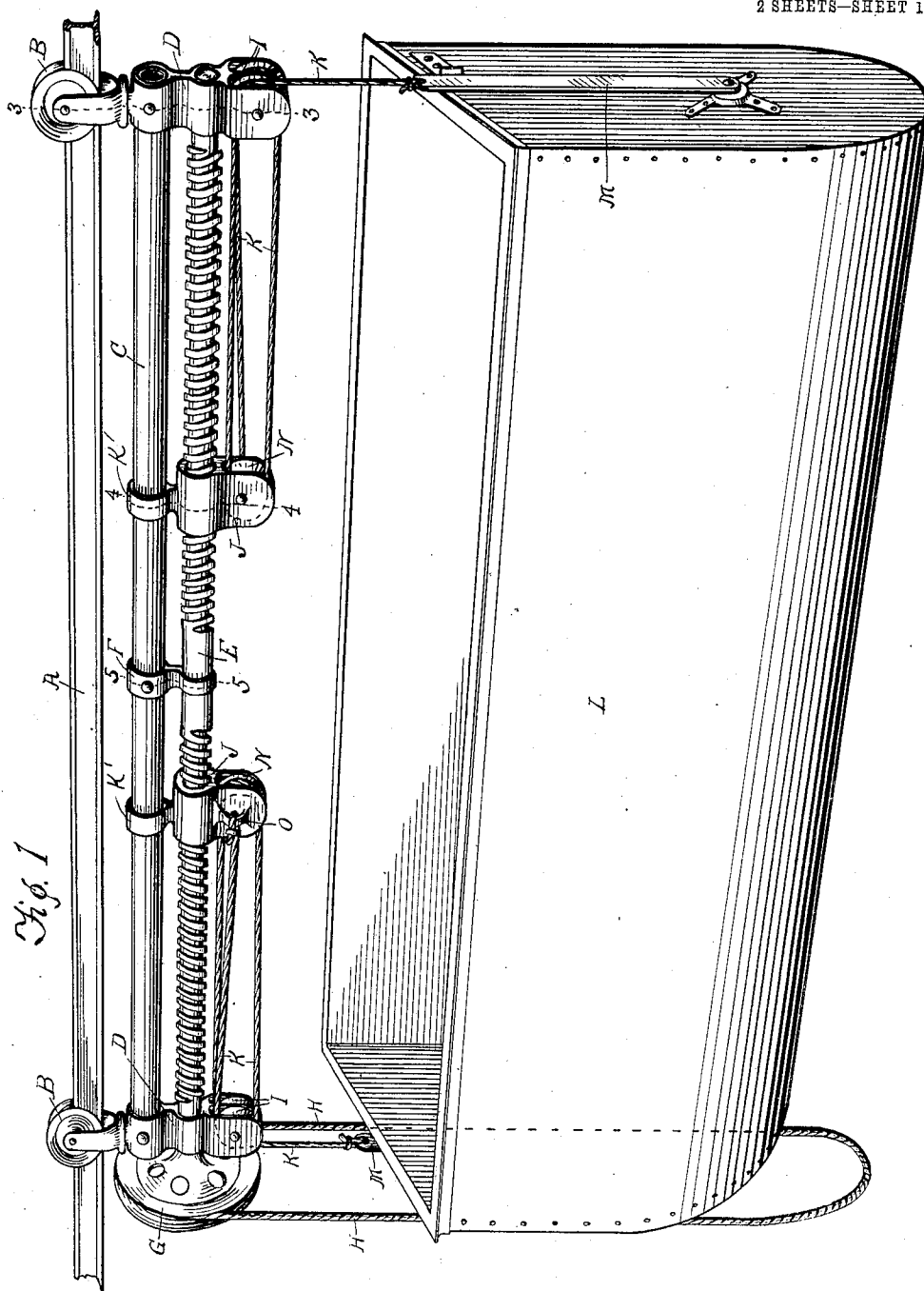


Fig. 1

Witnesses
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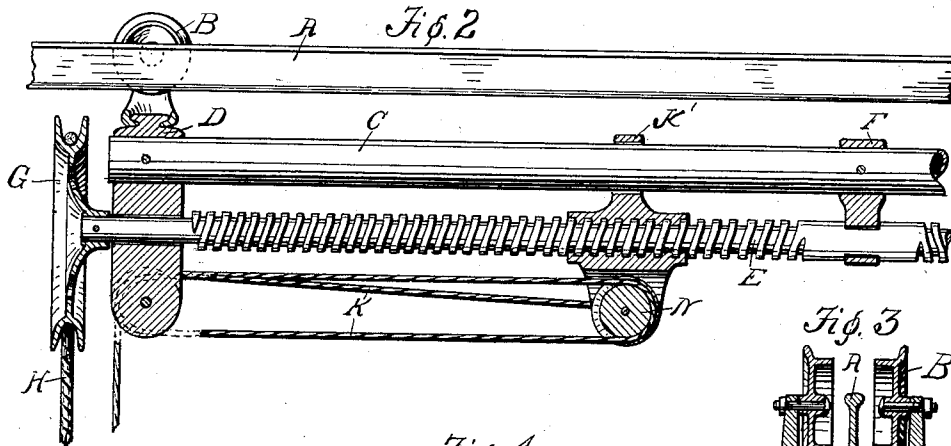
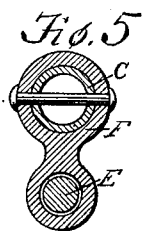
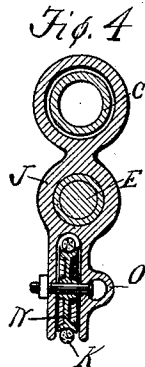
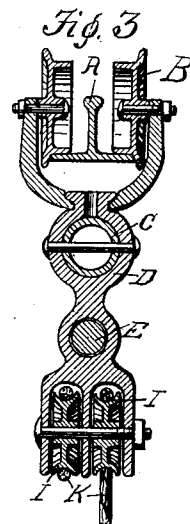
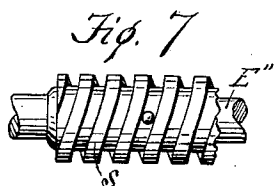
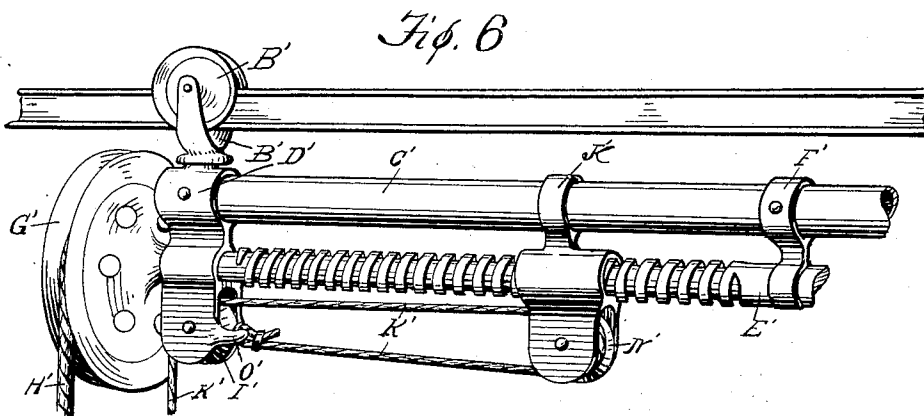
Inventor
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

ELEVATOR AND CARRIER.

No. 897,381.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Application filed September 18, 1905. Serial No. 278,917.

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, a citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented a new and useful Improvement in Elevators and Carriers, of which the following is a specification.

My invention relates to elevators and carriers having a receptacle attached, and it consists of improved means whereby the receptacle may be elevated and lowered, and be held at any desired point of elevation without the use of clutches, ratchets, brakes or other similar contrivances, as set forth in this specification and more particularly specified in the claims.

In the accompanying drawings forming a part of this specification, Figure 1 is a perspective of an elevator and carrier embodying my invention. Fig. 2 is a vertical section on a longitudinal plane showing a portion of the elevating gear. Fig. 3 is a vertical cross section on line 3—3 of Fig. 1. Fig. 4 is the same on line 4—4 of Fig. 1. Fig. 5 is the same on line 5—5 of Fig. 1. Fig. 6 is a perspective of a portion of the device showing a modification. Fig. 7 is a detail in perspective showing a modification.

Referring to the drawings, A represents an elevated track upon which a pair of trucks B are mounted. The trucks are connected together by a horizontally disposed bar C, (which is preferably a piece of pipe) to the ends of which castings D are secured, and to these castings the trucks are swiveled thus forming a carrier frame. The castings D are extended down below the bar and are fitted with bearings in which a shaft E is mounted so as to rotate therein. A bracket F is preferably secured to the bar C near its center and is extended down and is fitted with a bearing so as to support the center of the shaft. A chain or rope wheel G is secured to a projecting end of the shaft E and a chain or rope H is hung in this wheel so that the shaft may be rotated by an operator below. The shaft E is threaded between the castings D and the bracket F, the screw on one end being right handed and the screw on the other end being left handed.

J represents two threaded blocks one being fitted with right hand threads and the other with left hand threads to fit the threads on the end of the shaft upon which each block works. Each of the blocks J is fitted with a guide loop or eye K' which is

arranged to encircle the bar or pipe C and slide thereon while the shaft E is being rotated and the blocks J are being moved thereby. The object of these guide loops are to hold the blocks J from rotating while the thread of the shaft E is turning in them. In this way the blocks J are each drawn correspondingly in toward the center bracket F when the shaft E is rotated in one direction; and are then returned correspondingly toward the adjacent casting D when the shaft E is rotated in the opposite direction. The castings D are preferably fitted at their lower ends with two sheaves I, over which wire cables K are adapted to run.

L represents a box or receptacle adapted to hold the material to be elevated and carried. It may be constructed in any desired manner but is preferably provided with means at each end, as the hangers M to which the cables K can be attached. After being connected to the hanger M, the cable is passed over one of the sheaves in the casting D adjacent to it, and is then passed around a sheave N in the adjacent block J, then back around the other sheave I in casting D and then back to an eye O in the block J where it is fastened. The block J on the opposite end of the shaft E is also provided with a similar sheave N and the cable connected to the other end of the box is passed over and around the sheaves I and N in the casting D and the block J on this end of the carrier and is secured to the block J the same as on the opposite end. It will be seen that by this arrangement, as the shaft E is rotated so as to draw the blocks J in toward the central bracket F, the receptacle L will be elevated by means of the cables K, and that as the shaft is rotated in the opposite direction the receptacle will be correspondingly lowered. The receptacle being suspended at each end by the cables K, will be held securely in its horizontal position and will be prevented from tilting endwise should one end be loaded heavier than the other.

The arrangement of the sheaves and cable shown in Figs. 1 and 2 will cause the receptacle to be raised and lowered three times the distance that each of the blocks will move, while in Fig. 6 the arrangement shown will cause the receptacle to be raised and lowered twice the distance that each of the blocks will move. In this case the cable after passing over the sheave I' in the casting D' is passed around the sheave N' in the block J'

and is then passed back to an eye O' in the casting D'. When an extremely heavy load is to be handled the tackle may be further modified by passing the cable over the sheave I' and then to the block J' where it will be fastened without running around the sheave therein or being brought back to the casting D'.

It is preferable to have the shaft E fitted with right and left hand screws, and with two blocks J mounted thereon, so that a cable secured to each end of a receptacle L may be equally drawn or released at each end and will simultaneously raise and lower each end of the receptacle, but my invention is not limited to this double end construction. A shaft having a single screw may be used upon which a single block is mounted, as shown in Figs. 2 and 6, and to this single block a single cable may be secured in any suitable manner, so that the horizontal movement of the block will cause the receptacle to be elevated or lowered substantially as described. Any suitable kind of receptacle may be used only in this case it should be arranged so that the cable will be secured to a central point instead of at the end as will be readily understood by those skilled in the art without a special figure to illustrate it. Also, instead of a thread being cut upon the shaft, a casting having a screw S may be secured to the shaft E'', as shown in Fig. 7.

What I claim is:—

1. In an elevator and carrier, a horizontally disposed rotatable shaft carrying a screw and mounted in a frame which is adapted to run on an overhead track and to constitute a carrier, a receptacle for the carrier, an elevating tackle connected to both ends of the carrier frame and the receptacle, and means whereby the screw will operate the tackle and elevate and lower the receptacle.

2. In an elevator and carrier, a threaded shaft horizontally disposed and rotatably mounted in a frame adapted to run on an overhead track and to constitute a carrier, a receptacle for the carrier, an elevating tackle connected to both ends of the shaft and the receptacle and means whereby the threaded shaft will operate the tackle and elevate and lower the receptacle.

3. In a device of the character described, a carrier, a horizontally disposed rotatable shaft mounted in the frame of the carrier and carrying on one end a right hand screw and a left hand screw on the other end, a receptacle for the carrier, an elevating tackle connected to the receptacle at each end, and means whereby the screws will simultaneously operate the tackles and correspondingly elevate and lower the ends of the receptacle.

4. In a device of the character described, a carrier, a horizontally disposed shaft having a right hand thread cut on one end and a left hand thread cut on the other end, and

said shaft being rotatably mounted in the carrier frame, a receptacle for the carrier, an elevating tackle connected to each end of the receptacle, and means whereby the threaded shaft will simultaneously operate the elevating tackles and correspondingly elevate and lower the ends of the receptacle.

5. In combination with a frame, means for supporting said frame, blocks slidably mounted between the ends of the frame, means for imparting motion to the blocks, a receptacle, a flexible connection between each block and the adjacent end of the receptacle whereby movement of the blocks will raise or lower the ends of the receptacle uniformly.

6. In combination, a frame, means for supporting said frame, blocks slidably mounted between the ends of the frame, a shaft to impart motion to the blocks, said blocks being guided on the frame, a receptacle and a connection between each block and the adjacent end of the receptacle whereby the blocks will either raise or lower the receptacle.

7. In a device of the character described, a carrier, a horizontally disposed shaft having a right hand thread cut on one end and a left hand thread cut on the other end, said shaft being rotatably mounted in the carrier frame, threaded blocks mounted upon the threaded ends of the shaft, means to rotate the shaft so as to cause the blocks to move simultaneously toward or away from each other, a receptacle for the carrier, an elevating tackle connected to each block and to each adjacent end of the receptacle, so that the movements of the blocks on the shaft will simultaneously elevate and lower each end of the receptacle.

8. In a device of the character described, a carrier, a horizontally disposed bar connecting the trucks of the carrier frame together, a threaded shaft rotatably mounted in the carrier frame approximately parallel with said bar, a threaded block mounted on the threaded shaft and provided with a guide adapted to slide upon the bar and to prevent the block from turning with the shaft, means to rotate the shaft so as to cause the block to move horizontally thereon, a receptacle for the carrier, an elevating tackle connected to the block and to the receptacle so that the movements of the block will elevate and lower the receptacle.

9. In a device of the character described, a carrier, a horizontal bar connecting the trucks of the carrier frame together, a threaded shaft rotatably mounted in the carrier frame approximately parallel with said bar, a threaded block mounted on the threaded shaft and provided with a guide to slide upon the bar, a casting connecting the end of the shaft and bar together, a sheave in the casting below the shaft, a sheave in the lower part of the block, means to rotate the shaft, a receptacle for the carrier and a hoisting rope or cable connected to the receptacle and

passed over the sheave in the casting and in the block so that the movements of the block on the shaft will elevate and lower the receptacle.

5 10. In a device of the character described, a carrier, a horizontal bar connecting the trucks of the carrier frame together, a threaded shaft rotatably mounted in the carrier frame approximately parallel with said bar, 10 a threaded block mounted on the threaded shaft and provided with a guide to slide upon the bar, a casting connecting the end of the shaft and bar together, sheaves in the lower end of the casting and a sheave in the block 15 below the shaft, means to rotate the shaft, a receptacle for the carrier, and a hoisting rope or cable connected to the receptacle and passed over the sheaves in the casting and around the sheave in the block and then con- 20 nected to the block so that its movements on the shaft will elevate and lower the receptacle.

11. In a device of the character described, a carrier, a horizontal bar connecting the trucks of the carrier frame together, a rotatable shaft having a right hand thread on one end and a left hand thread on the other end mounted in the frame of the carrier approxi- 25 mately parallel with said bar, blocks having threads to fit the threads on the shaft mounted on opposite ends thereof, and said blocks having guides to slide upon said bar, castings connecting the ends of the shaft and bar to- 30 gether, sheaves in the castings below the shaft, a sheave in the lower part of each block, means to rotate the shaft, a receptacle for the carrier, and hoisting ropes or cables connected to each end of the receptacle, each rope or cable being passed over the sheaves 35 in the adjacent casting, also over the sheave in the adjacent block and then connected to said block so that their movements on the opposite ends of the shaft will simultane- 40 ously elevate and lower the ends of the receptacle.

12. In a device of the character described, a carrier, a horizontal bar connecting the trucks of the carrier frame together, a rotatable shaft having a right hand thread on one 50 end and a left hand thread on the other end mounted in the frame of the carrier approximately parallel with said bar, blocks having threads to fit the threads on the shaft mounted on opposite ends thereof, and said blocks 55 having guides to slide upon said bar, a bracket centrally secured to the bar and supporting the central part of the shaft, castings connecting the ends of the shaft and bar together, sheaves in the castings below the shaft, a sheave in the lower part of each 60 block, means to rotate the shaft, a receptacle for the carrier, and hoisting ropes or cables connected to each end of the receptacle, each rope or cable being passed over the sheaves 65 in the adjacent casting, also over the sheave

in the adjacent block and then connected to said block so that their movements on the opposite ends of the shaft will simultaneously elevate and lower the ends of the receptacle.

13. In combination, a frame, means for supporting said frame, a screw carried by the frame, a block movable on each end of the frame, and engaged by the screw, a receptacle, a connection between each end of the 70 receptacle and the adjacent block, and means for rotating the screw.

14. In combination, a frame, comprising suitably connected heads, means attached to the heads for supporting the frame, a screw 80 rotatably mounted in the heads, said screw having its end portions oppositely threaded, blocks slidably mounted on the frame and engaged by the screw, a receptacle and connections between the receptacle and the blocks. 85

15. In combination, a frame comprising heads suitably connected, means attached to the heads for supporting the frame, a screw rotatably mounted in the heads, yokes mov- 90 able on the connection of the heads, and engaged by the screw, a bucket, and connections between the bucket and the yokes.

16. In combination, heads, a rigid connection between the heads, supporting means attached to the heads, a screw rotatably 95 mounted in the heads, yokes mounted on the rigid connection of the heads and engaged by the screw, a bucket, and connections between the bucket and the yokes.

17. In elevated carriers, an overhead 100 track, a frame carrying wheels to run on the track, a rotatable shaft carrying a screw mounted in the frame, a receptacle hung below the frame by suspending means having a connection with the screw, and means de- 105 pending within reach of an operator to rotate the screw and thus to elevate and lower the receptacle.

18. In elevated carriers, an overhead track, a frame carrying wheels to run on the 110 track, a rotatable shaft carrying a screw mounted in the frame, a receptacle hung below the frame by suspending means having a connection with the screw, and a chain depending within reach of an operator to rotate 115 the screw and thus to elevate and lower the receptacle.

19. In elevated carriers, an overhead track, a frame carrying wheels to run on the track, a rotatable shaft carrying a screw 120 mounted in the frame, a receptacle hung below the frame by suspending means having a connection with the screw, and means depending within reach of an operator to manually rotate the screw and thus to elevate 125 and lower the receptacle.

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Witnesses:

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