

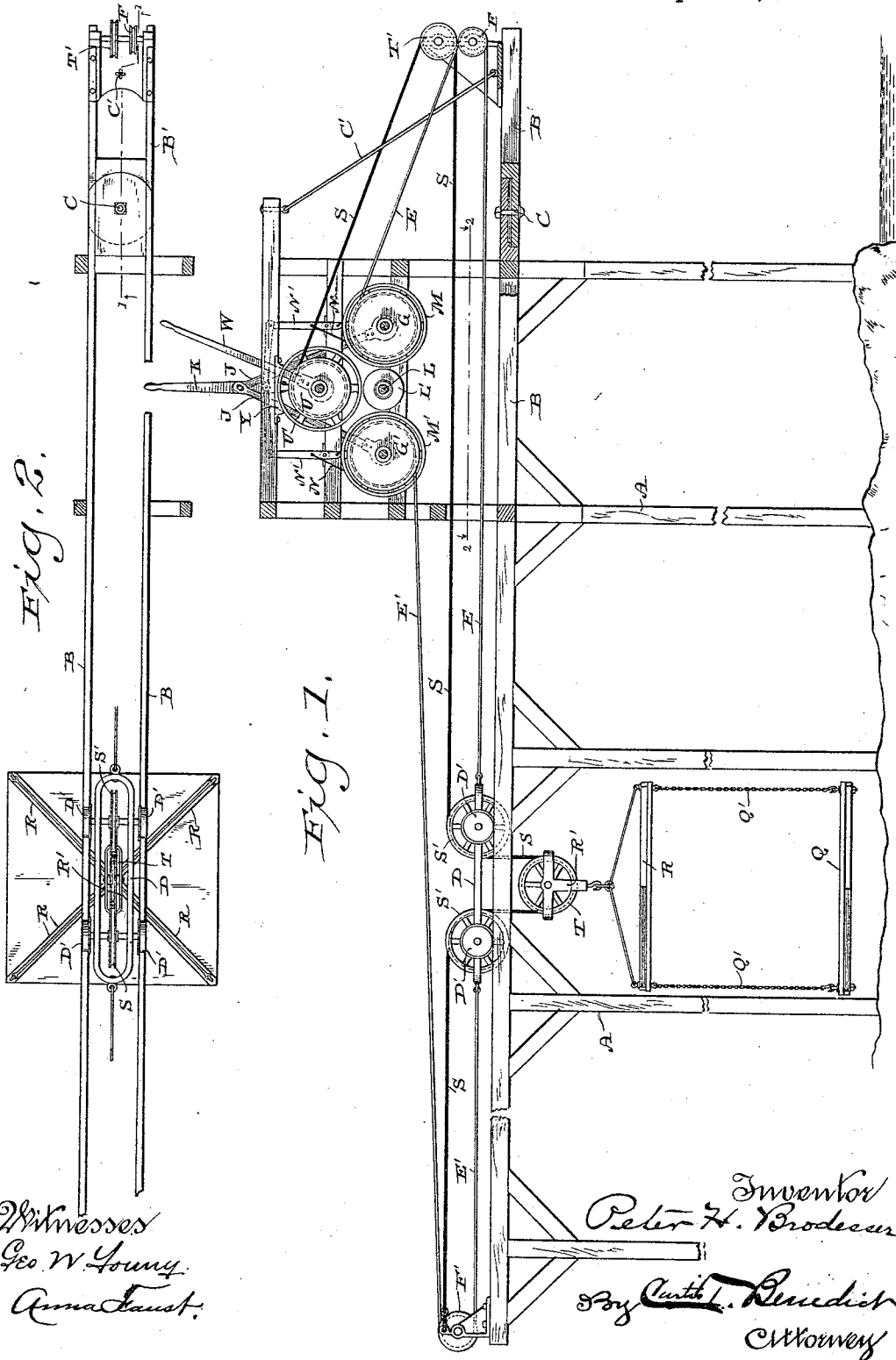
(No Model.)

2 Sheets—Sheet 1.

P. H. BRODESSER.
ELEVATOR AND CARRIER.

No. 451,260.

Patented Apr. 28, 1891.



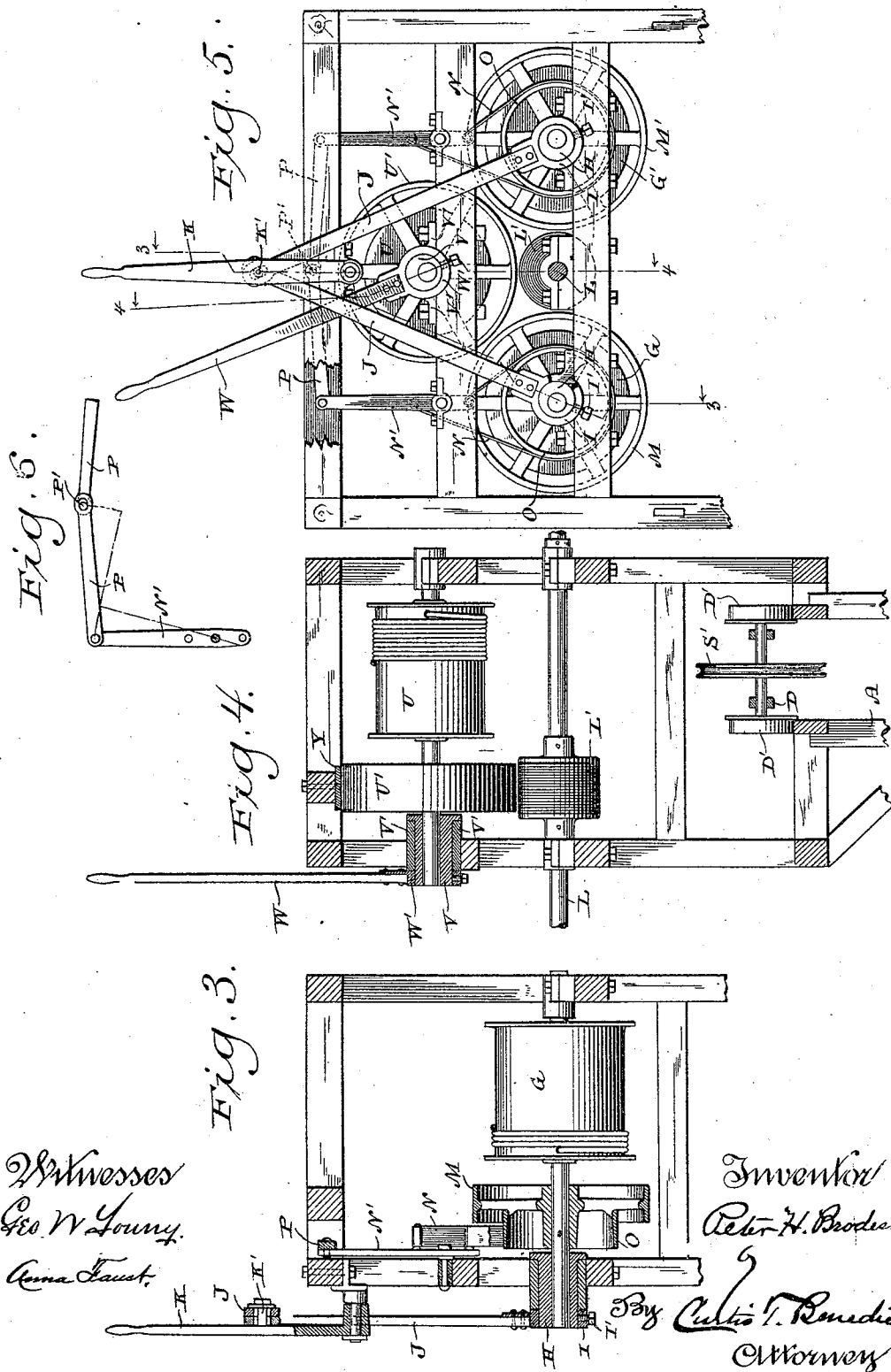
Witnesses
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UNITED STATES PATENT OFFICE.

PETER H. BRODESSER, OF MILWAUKEE, WISCONSIN.

ELEVATOR AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 451,260, dated April 28, 1891.

Application filed July 29, 1890. Serial No. 360,257. (No model.)

To all whom it may concern:

Be it known that I, PETER H. BRODESSER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Elevators and Carriers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in elevators and carriers; and it pertains particularly to a device adapted for loading or unloading bark from a vessel lying alongside a wharf.

In the drawings, Figure 1 is a side elevation of my complete device, a part being broken away and shown in section on line 1 1 of Fig. 2. Fig. 2 is a top plan view of a portion of the device, another portion being shown in plan below the line 2 2 of Fig. 1. Fig. 3 is a transverse section of the drum mechanism on line 3 3 of Fig. 5. Fig. 4 is a transverse section of the drum mechanism on line 4 4 of Fig. 5. Fig. 5 is an elevation of the winding-drums and allied mechanism shown at the opposite end from the view in Fig. 1. Fig. 6 is a detail of the brake mechanism.

A is the supporting-frame.

B is a horizontal two-rail track supported on and forming a part of the frame, the outer end B' of which projects over the water and is hinged to the stationary part B of the track. The part B' is hinged to the part B by means of overlapping terminal portions secured together by the pivotal bolt C, whereby the portion B' is adapted to be swung around laterally against the side of the frame when not in use. A strengthening and supporting rod C' is hinged to the outer end of the track B' at its lower extremity and to the frame A at its upper extremity directly above the bolt C, whereby it has an axis in the perpendicular through the bolt C. A carriage D, provided with flanged wheels D' D', travels on the track B and B'. A cable E, attached to one end of the carriage D, runs over a loose pulley F, journaled in posts fixed on the outer end of the track B', and is secured to and winds on a drum G. A cable E' is attached to the other end of the carriage D, and runs over a pulley F', journaled in posts fixed on the frame at the inner end of the

track B, and at its other extremity is secured to and winds on a drum G'. The shafts of the drums G and G' are journaled at their rear ends so as to have a slight horizontal movement in boxes secured to the frame A, and at their front ends are journaled eccentrically in cylindrical blocks H H, which blocks have their bearings in boxes fixed on the frame. A collar I is secured removably to the block H by a set-screw I', and a radial arm J is secured rigidly to the collar I at one extremity, and at the other extremity is pivoted medially on the lever-handle K. The lever-handle K is pivoted at its lower end to the frame. The pivot K', by which the upper extremities of the arms J J are pivoted to the lever-handle K, is fixed in the lever-handle K and passes through short longitudinal slots in the arms J J, whereby a slight amount of vertical lost motion is provided for. A driving-shaft L has its journal-bearings in the frame, and is located between the drums G and G', and is provided with a friction-wheel L', with which the friction-wheels M and M' on the shafts of the drums G and G', respectively, are adapted to be thrown into engagement by shifting the lever-handle K either to right or left. The tilting of the lever-handle K rotates the eccentrics H H limitedly, and thereby shifts the positions of the shafts of the drums G and G' sufficiently to throw the wheels M and M' severally into and out of engagement with the wheel L'. By this means the cable E or E' may be wound on its drum, as desired, the other cable in either case being free to unwind from its drum. By this means the carriage D is propelled along the track toward the outer or inner end, as desired. Strap brake-bands N N are each secured at one end to the lower extremities of brake-levers N' N' and pass partly around the wheels O O, fixed on the shafts of the drums G and G', respectively, the other extremities of the brake-bands N N being attached medially to the brake-levers N' N' on the other side of their pivotal point. The levers N' N' are medially pivoted to the frame and at their upper ends are severally pivoted to the brake-rods P P, which at their inner ends are secured movably together by a pivot P', inserted through them in slots therefor, whereby a certain amount of horizontal lost

motion is provided for. By placing the foot on the inner ends of the rods P P and forcing them downwardly slightly the brake-bands N N will be drawn tightly about the wheels O O, and thereby stop the rotation of the drums G and G'.

In connection with the carriage and mechanism for propelling it forward and backward on the track an elevator is used, which is suspended below the carriage and is arranged to travel with it horizontally. In the elevator a platform Q is suspended removably by the chains Q' Q', having hooks at their lower extremities engaging with rings therefor in the platform from a spreader R, suspended on the pulley-block R'. A cable S, secured at one end to the frame conveniently through the post in which the pulley F' is journaled, runs over pulleys S' S' in the carriage D and between and below them, around the pulley T in the pulley-block R', and about the pulley T', journaled at the other end of the track, and winds on the drum U. The drum U at its rear end is journaled loosely in the frame and at its front end is journaled eccentrically in a cylindrical block V, which is rotatable in a box V', fixed on the frame. A radial lever-handle W is secured by a collar W' removably to the block V, whereby by the shifting of the block V a friction-wheel U', fixed on the shaft of the drum U, is thrown into and out of engagement with the friction-wheel L' on the driving-shaft L and alternately into and out of engagement with a brake-shoe Y, fixed on the frame above the friction-wheel U'.

The device is adapted to be used as follows: When the mechanism is in the position shown in Fig. 1, the lever-handle W, being thrown to a perpendicular position, will release the friction-wheel U' from the brake Y and allow the drum U to rotate, unwinding the cable S under the force of the weight of the platform Q, which descends to the ground to be loaded with bark. When the load has been placed on the platform, the lever-handle W is thrown to the left, putting the friction-wheel U' in contact with the friction-wheel L' on the driving-shaft, whereby the cable S is wound on the drum U, elevating the platform Q and its load to the position shown in Fig. 1. Thereupon the lever-handle W is shifted to the right into the position shown in Fig. 1, whereby the drum U is locked against rotation and the lever-handle K is shifted toward the right, throwing the friction-wheel M into contact with the friction-wheel L' on the driving-shaft, whereby the cable E is wound on the drum G, the cable E' at the same time unwinding freely from the drum M', and the carriage is drawn toward the right to and upon the projecting track B'. The brake-rods P P are depressed, locking the drums M and M' against rotation, and the lever-handle K is at the same moment shifted to its central position. (Shown in Fig. 1.) The lever-handle W is then shifted

to its central position, releasing the friction-wheel U' from the brake Y, and the load is thereby allowed to descend by its gravity to the vessel below. For convenience in loading and unloading the platform the chains Q' Q' may be unhooked therefrom. When the elevator is run back into the position shown in Fig. 1 and the device is not in use, the projecting end B' of the track may be swung around laterally away from over the dock.

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

1. In an elevator and carrier, a carriage traveling on a track and two cables attached thereto running in opposite directions and winding upon independent drums, in combination with an elevator supported beneath the carriage by an independent cable having a fixed attachment at one end, winding on a drum at the other end, and running medially over pulleys in the carriage and about a pulley in the elevator, substantially as described.

2. In an elevator and carrier, the combination, with a traveling carrier and two cables attached thereto and running in opposite directions, of two drums on which the two cables respectively wind, an intermediate driving-shaft in fixed journal-boxes, movable journal-boxes in which one end of each of the drums is journaled, levers fixed in the movable boxes, and a lever-handle pivoted at one end to the frame and having the journal-box levers at their outer ends pivoted thereto medially by a bolt passing through the lever-handle and through short slots therefor in the journal-box levers, whereby the drums are concurrently shifted in the same direction, respectively, into and out of frictional engagement with the interposed driving-shaft, substantially as described.

3. In an elevator and carrier, the combination, with a carriage traveling on a track, two cables attached to the carriage and running in opposite directions, winding-drums on which the cables severally wind, the drums being located at a distance apart and having shifting journal-boxes at one end, means for shifting said boxes concurrently, and an intermediate driving-shaft in fixed boxes, of an elevator, a cable secured at one end to a fixed support and running over two pulleys in the carriage and medially about a sheave in the elevator and at the other end winding on an independent drum having a movable journal-box at one end, and means for shifting the journal-box and throwing the drum into and out of contact with the driving-shaft, substantially as described.

4. In an elevator and carrier, the combination, with a driving-shaft having a friction-wheel thereon, of two winding-drums on which the reversely-drawing cables of the carriage are wound, arranged to be alternately thrown into engagement with and released from the driving-shaft, and another winding-drum on which the elevator-cable is wound,

arranged to be alternately thrown into engagement with the driving-shaft and with a stationary brake on the frame, substantially as described.

- 5 5. In an elevator and carrier having carriage-shifting cables winding on two independent drums, the combination, with brake-band wheels fixed on the shafts of the drums, of bands passing loosely thereabout, and
10 medially-pivoted levers to which the extremities of the bands are attached on opposite sides of the pivotal points, and lever-actuat-

ing rods pivoted to the brake-levers, the free ends of the brake-rods being connected movably together and arranged for actuating the 15 brake-levers and band-brakes, substantially as described.

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

PETER H. BRODESSER.

Witnesses:

C. T. BENEDICT,
ANNA FAUST.