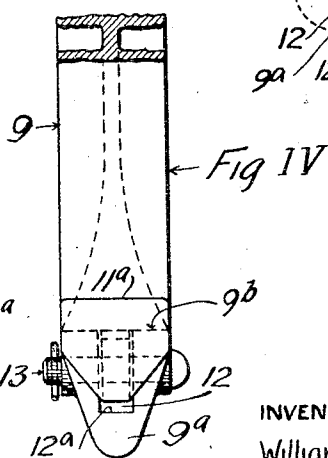
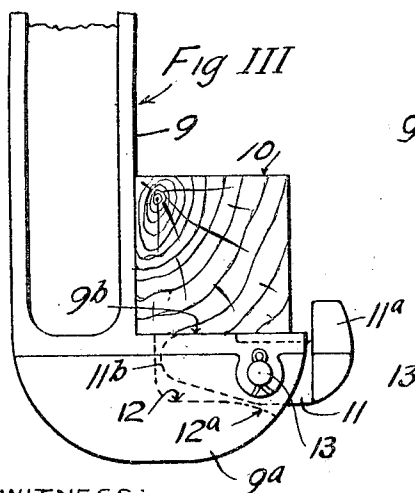
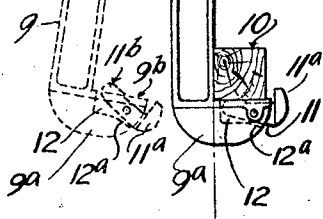
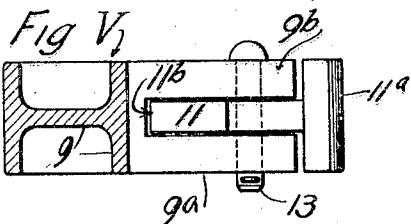
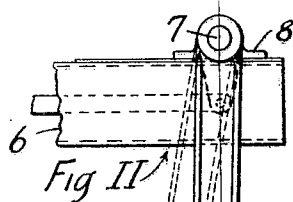
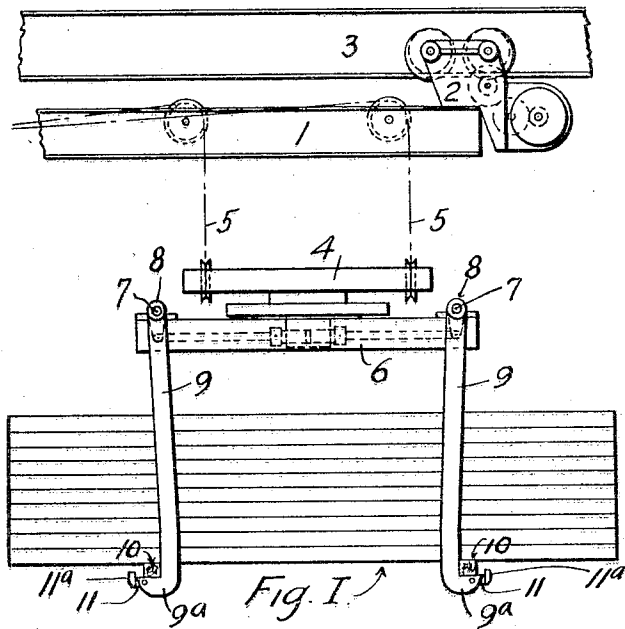


May 13, 1924.

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W. C. BOLGIANO
LUMBER CARRIER GRAPPLE

Filed Sept. 22, 1923



WITNESS:
J. P. Lipps

INVENTOR:
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By *George C. Ding*
His Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM C. BOLGIANO, OF CLEVELAND, OHIO, ASSIGNOR TO THE BROWN HOISTING MACHINERY COMPANY, OF CLEVELAND, OHIO, A CORPORATION.

. LUMBER-CARRIER GRAPPLE.

Application filed September 22, 1923. Serial No. 664,160.

To all whom it may concern:

Be it known that I, WILLIAM C. BOLGIANO, a citizen of the United States, residing in the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Lumber-Carrier Grapples, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, which form part of the specifications, and wherein the same parts are designated by like numerals in each case.

My invention relates to means for preventing the grapples of lumber-carriers from accidental disengagement from the lumber carrying-skids.

The principal object of my invention is to provide a safety appliance for the grapples of lumber-carrying devices that will function automatically, and this object is attained in the manner described in the following specifications and illustrated by the drawings.

In the said drawings Figure I is a side view of a lumber-carrying grapple, suspended from a trolley and which embodies my invention, Figure II is an enlarged side view of one of the grapple-hooks, Figure III is an enlarged side view of the lower end of the hook shown in Figure II and Figures IV and V are, respectively, end and top views of Figure III.

Referring to the drawings, 1 is the forward end of a trolley suspended from a truck 2 which traverses an I-beam rail 3. A hoisting-frame 4 depends from the trolley 1 and is sustained by ropes 5, 5. A grapple-carrying frame 6, which is rectangular in plan, is swung from the underside of the hoisting-frame 4. Near each end of the grapple-frame 6, and extending transversely thereof, are shafts 7, 7, which are supported in bearings 8, 8. The shafts 7, 7, extend beyond the frame 6 at each side to a distance to accommodate carry-arms 9, 9. The lower ends of the carry-arms 9, 9, are provided with laterally extending projections 9^a, 9^a, which projections engage and carry lumber-carrying skids or sticks 10, 10.

When carrying lumber-units (as shown in Figure I) with a machine as thus far described, there is a tendency for the sticks 10, 10 to slide off the projections 9^a, 9^a, when a sudden stopping of the trolley is brought about. To provide against any disengagement of the hooks 9, 9, from the sticks 10, 10

I employ safety devices made up of lever arms 11, 11 provided with upright stops 11^a at their outer ends, which are inserted in the mortise-like recesses 12, 12, of the projections 9^a of the arms 9. The lever-arms 11, 11, are held in their places in the recesses 12, 12, by pins 13, 13, which pass through the projections 9^a, 9^a, near their outer ends and also through the lever-arms 11, 11, about midway of their length. The lever and stop together are T-shaped in plan, which construction, notwithstanding any midway location of the pivotal point, will insure an unbalanced condition of the same when it is in its normal position and place in the projection 9^a. Because of its unbalanced condition the head or stop 11^a of the lever 11, under such conditions, will rotate about the lever's pivotal point until it encounters the bottom of the recess 12 at 12^a. With the lever 11 in the position just described, the toe 11^b will extend above the surface 9^b of the arm 9 (see position of the arm 9, represented in dotted lines, in Figure II).

It will be apparent to those versed in the art to which my invention relates that when the grapple is lowered to engage the skids or sticks under a lumber-unit that upon such engagement the stick will depress the toe-end of the lever 11 about the pin 13 with a consequent elevation of the head-end and it will be further seen that the skid or stick can not slide off the projection 9^a of the arm 9.

What I claim and wish to secure by Letters Patent, is:—

1. The combination, with the grapple-arms of a lumber-carrier provided with projections at their lower ends for sustaining the load, of lever-arms, having stops at their outer ends, pivotally connected to said projections at suitable points on said lever-arms to normally elevate the inner arms thereof above the upper side of said projections, substantially as shown and described.

2. The combination, with the grapple-arms of a lumber-carrier provided with projections at their lower ends for sustaining the load, of recesses in said projections extending downwardly from the upper sides of the same, and lever-arms, having stops at their outer ends, within said recesses, pivotally connected to said projections at suitable points on the arms to overbalance the same and thereby normally elevate the inner arms

of said levers above said upper sides, substantially as shown and described.

3. The combination, with the grapple-arms of a lumber-carrier provided with projections at their lower ends for sustaining the load, of recesses in said projections extending downwardly from the upper sides and inwardly from the outer ends thereof, and lever-arms within said recesses, and pivotally connected to said projections at suitable

points on the arms to overbalance the same and thereby normally elevate the inner arms of said levers above the upper side of said projections, substantially as shown and described.

WILLIAM C. BOLGIANO.

Witnesses:

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L. P. LIPPS.