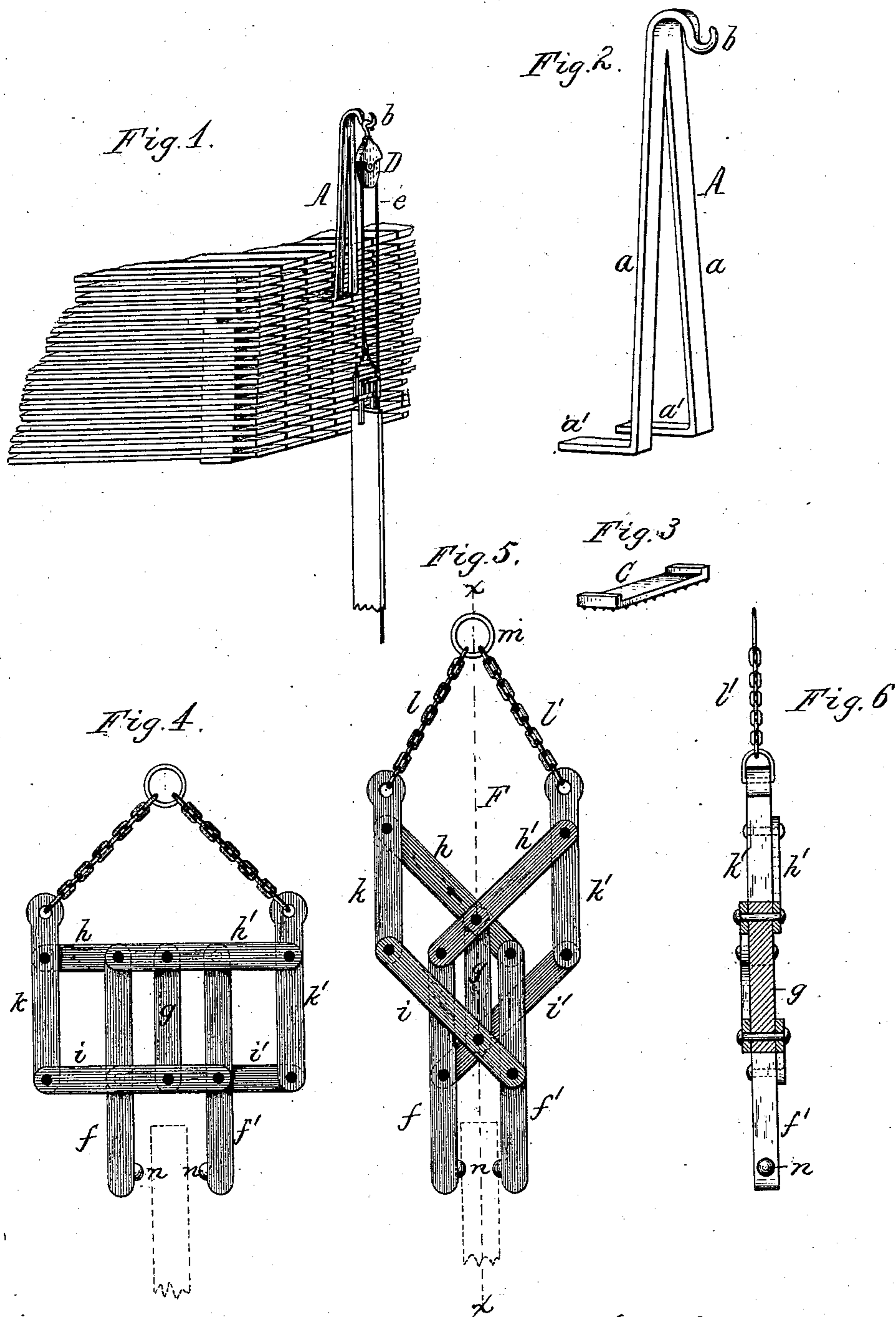


(No Model.)

E. L. STOCKING.
HOISTING APPARATUS.

No. 255,351.

Patented Mar. 21, 1882.



Chas. Buchheit.
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UNITED STATES PATENT OFFICE.

EDGAR L. STOCKING, OF BUFFALO, NEW YORK.

HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 255,351, dated March 21, 1882.

Application filed September 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDGAR L. STOCKING, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Hoisting Apparatus, of which the following is a specification.

This invention relates more particularly to a hoisting apparatus which is designed for elevating lumber in piling it in yards or other places of storage.

The object of my invention is to produce a simple hoisting apparatus which is readily secured in the lumber-pile, which holds the lumber securely while it is being elevated without defacing it, and which is operated with ease and safety.

My invention consists to that end of a standard and a grapple of peculiar construction, which will be hereinafter fully described.

In the accompanying drawings, Figure 1 is a perspective view of a lumber-pile with my improved hoisting apparatus in position. Fig. 2 is a perspective view of the standard. Fig. 3 is a perspective view of the shoe. Fig. 4 is a front elevation of the grapple with its jaws open. Fig. 5 shows the grapple closed. Fig. 6 is a vertical section in line *x x*, Fig. 5.

Like letters of reference refer to like parts in the several figures.

A represents the standard, which is composed of two downwardly-diverging legs, *a*, terminating in backwardly-projecting feet *a'*, and which is provided at the top with a forwardly-projecting hook, *b*. The feet *a'* are made so thick that they will fit snugly in the space between two boards of ordinary thickness. When lumber of greater thickness is piled the feet *a'* of the standard are set on a shoe, C, which receives both feet, and which increases the thickness of the base of the standard, so that it fits snugly in the space of greater height between such boards.

D represents a pulley, which is attached to the hook or other contrivance, *b*, and *e* is a rope running over the pulley and connected at one end to the grapple F, while the other end is taken hold of by the operator.

The grapple F consists of two jaws, *f f'*, which remain parallel in all positions as they move toward and from each other in closing and opening.

g is a fulcrum-bar arranged between the upper portions of the grapple, and *h h'* and *i i'* are two pairs of levers, whereby the jaws are

connected with the upper and lower ends of the bar *g*, and with two parallel bars, *k k'*. The two levers of each pair *h h'* and *i i'* cross each other where they are pivoted to the bar *g*, their inner ends being connected with the jaws *f*, while their outer ends are connected to the bars *k*. The lever *h* is parallel to the lever *i*, and the lever *h'* parallel to the lever *i'*, and the levers *i i'* are connected with the lower ends of the parallel bars *k k'*. The upper ends of the bars *k k'* project preferably beyond the point at which the levers *h h'* are pivoted to these bars, and are connected by chains or ropes *l l'* to a ring, *m*, to which the hoisting-rope *e* is attached. Upon drawing on the rope *e* the bars *k k'* are made to approach each other, whereby the jaws *f f'* are similarly moved, and upon releasing the rope the bars *k k'* and jaws *f f'* are permitted to separate. During these movements the bars *k k'* and the jaws *f f'* remain parallel with each other, the lever *h* remains parallel with the lever *i*, and the lever *h'* with the lever *i'*.

n represents semi-spherical projections formed on the inner sides of the lower ends of the jaws *f f'* for the purpose of seizing the boards. These projections enter the boards sufficiently to hold the boards firmly, but do not mar or deface the surface of the boards, like pointed grapples. These semi-spherical projections also permit the boards to turn and assume a vertical position in being hoisted.

I claim as my invention—

1. The hoisting-standard A, provided with legs *a a*, terminating in rearwardly-projecting feet *a'*, arranged in the same horizontal plane, and adapted to enter between the boards of a pile of lumber, and a forwardly-projecting hook, *b*, to which the rope-pulley is attached, substantially as set forth.

2. The combination, with the hoisting-standard A, provided with feet *a'*, of the detachable shoe C, whereby the thickness of the base can be increased, substantially as set forth.

3. The hoisting-grapple F, composed of parallel jaws *f f'*, a fulcrum-bar, *g*, levers *h h'* *i i'*, and bars *k k'*, having their upper ends connected with the hoisting-rope, substantially as set forth.

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