

(No Model.)

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S. LEE & R. WEIR.

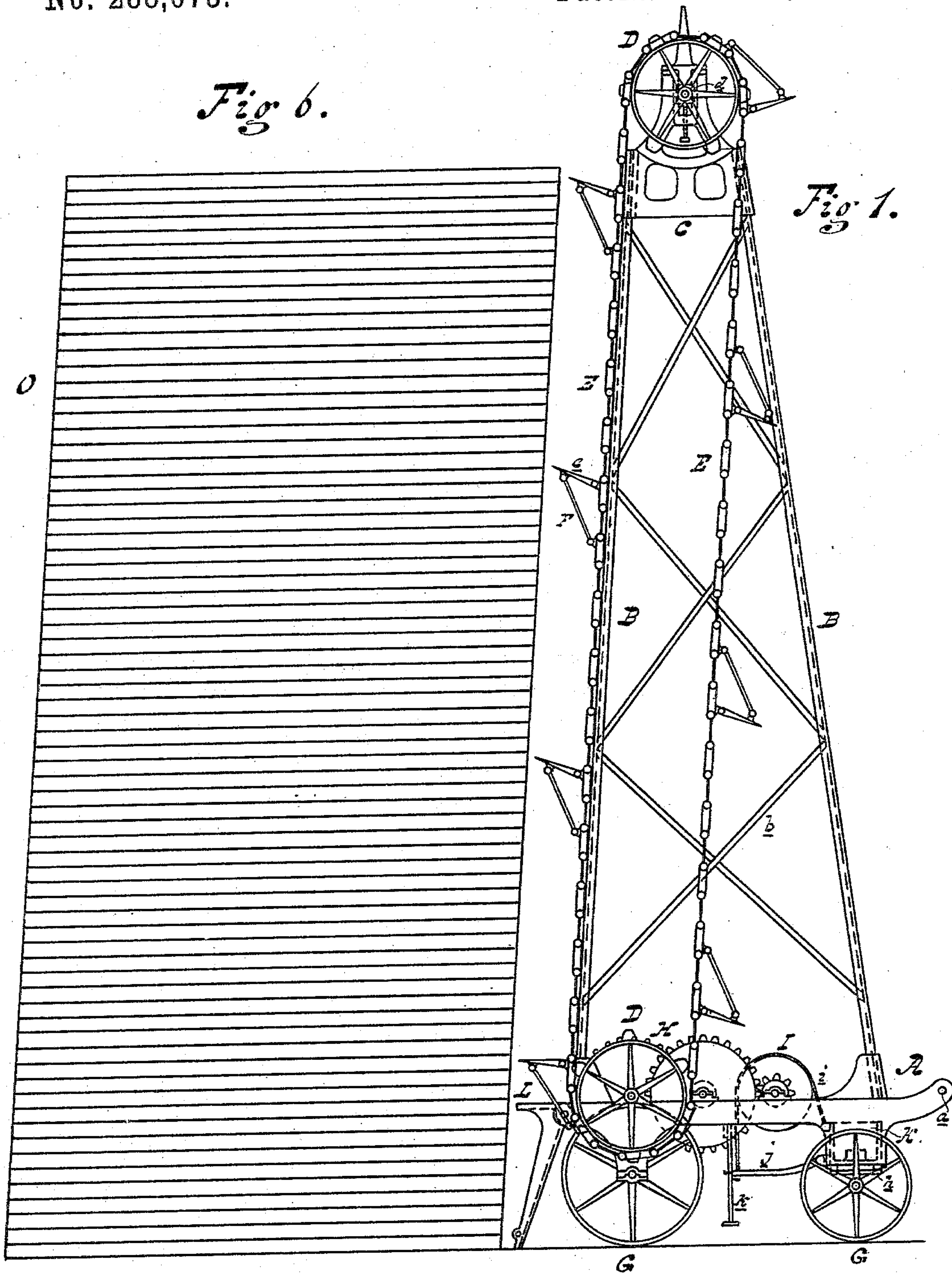
ELEVATING MACHINE FOR CROSS PILING LUMBER.

No. 288,073.

Patented Nov. 6, 1883.

*Fig 6.*

*Fig 1.*



*Attest:*  
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(No Model.)

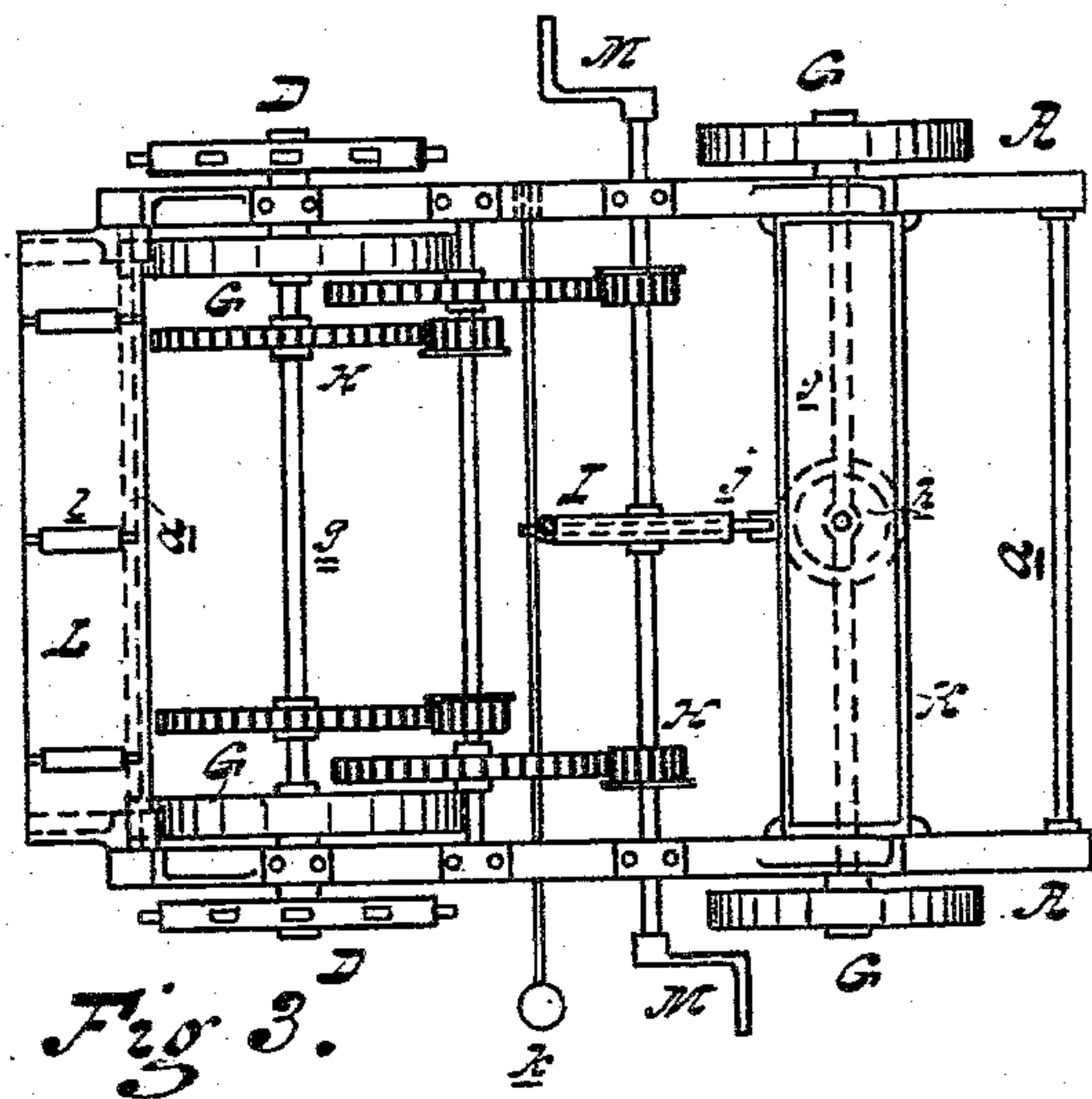
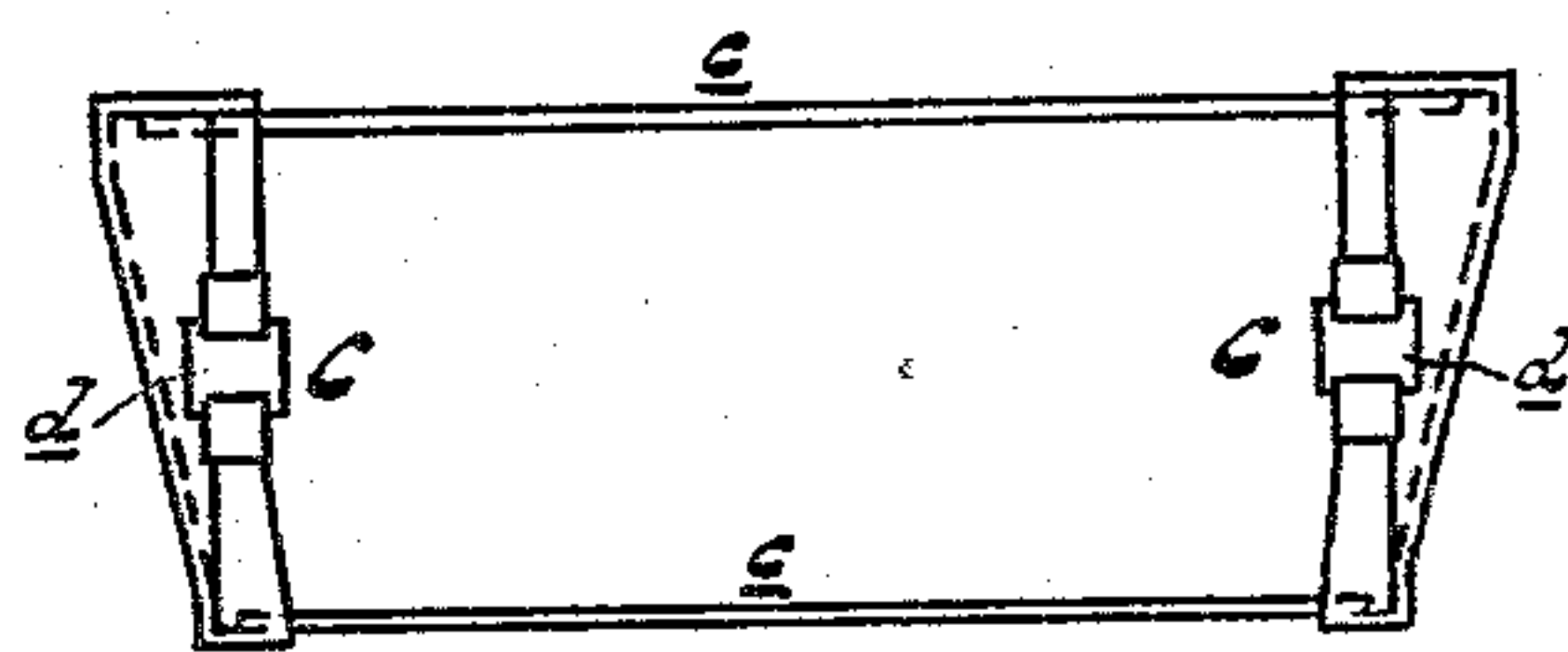
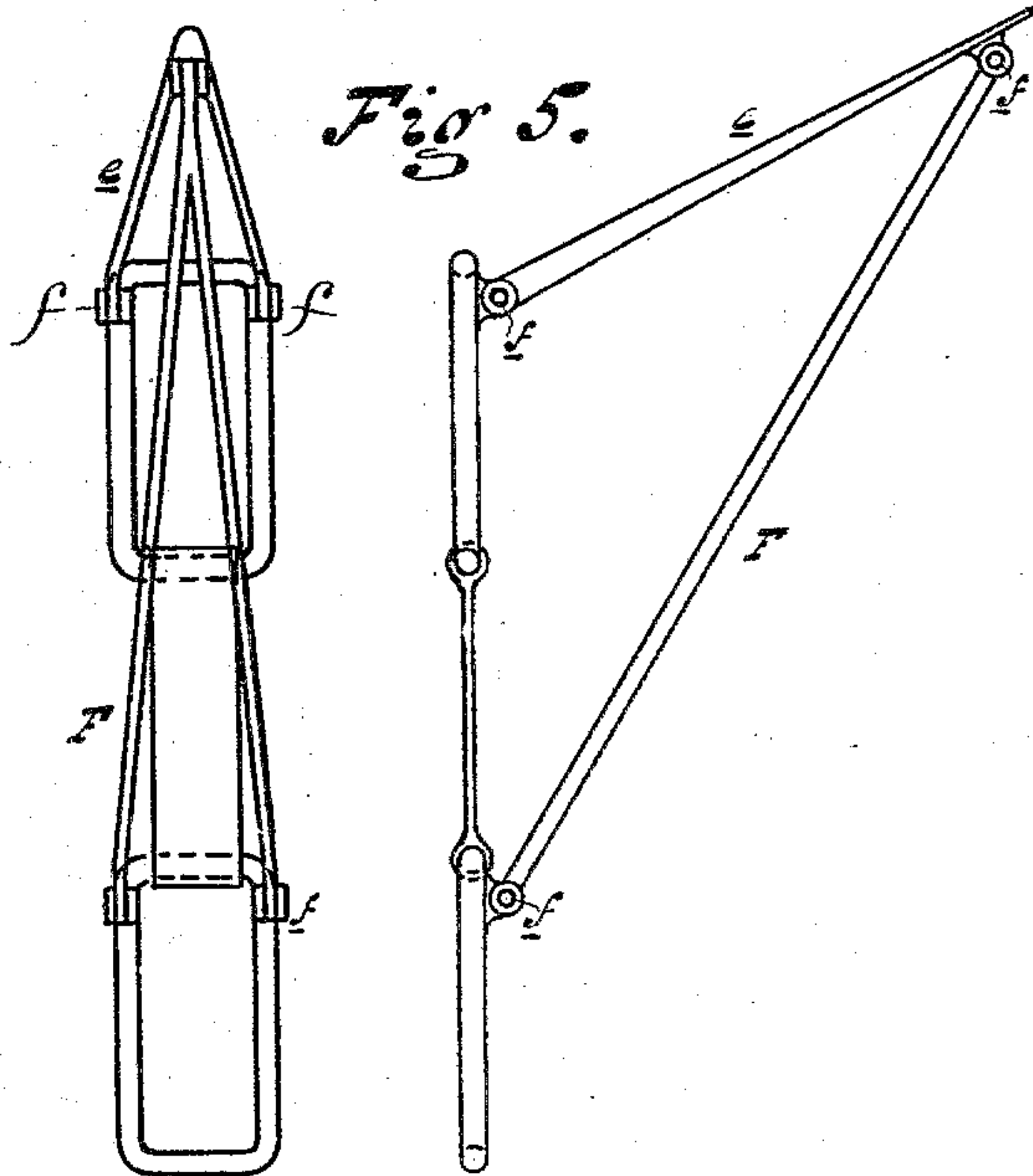
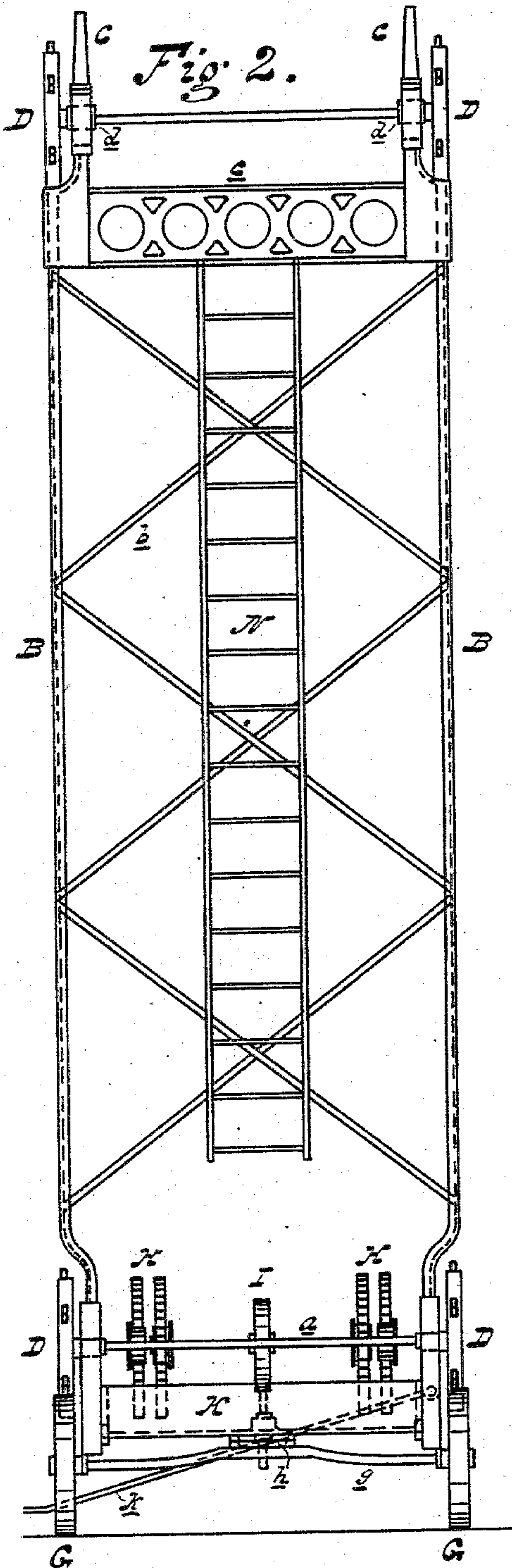
2 Sheets—Sheet 2.

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No. 288,073.

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Inventor:  
Seth Lee  
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# UNITED STATES PATENT OFFICE.

SETH LEE AND ROBERT WEIR, OF MUSKEGON, MICHIGAN.

## ELEVATING-MACHINE FOR CROSS-PILING LUMBER.

SPECIFICATION forming part of Letters Patent No. 288,073, dated November 6, 1883.

Application filed May 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, SETH LEE, a citizen of the United States, and ROBERT WEIR, a subject of the Queen of Great Britain, both residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Elevating-Machines for Cross-Piling Lumber; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of this invention is, first, to facilitate the piling of lumber to any desired height by means of endless chains, on which are fastened at convenient distances apart teeth or hooks. On these hooks the lumber is placed and carried upward and close to the face of the pile by the rotation of the chain-wheels below; second, to facilitate the lowering of lumber by its own weight; third, to provide means for dispensing with the use of scaffolding in the building up or taking down of a lumber-pile.

Our invention consists in the arrangement and construction of devices composing the carrying-chains and in their connection with other parts of the machine, as will be hereinafter fully set forth, and specifically pointed out in the claims.

Figure 1 of the drawings is a side elevation of the entire machine. Fig. 2 is a front elevation of the same. Fig. 3 is a plan view as it appears with the elevated frame and chains removed. Fig. 4 is a plan view of the top frame for carrying the upper chain-wheels. Fig. 5 is a front and side view of that portion of the chain constituting the hooks. Fig. 6 is an elevation of the lumber-pile.

A represents the main body of the bottom frame, which may be of wood, but is preferably made of iron. This frame is securely fastened together by stanchions *a*.

B represents the four standards of the elevated frame-work, which is composed of angle-iron or other suitable material, and *b* are

diagonal braces bolted or riveted to the angle-irons on all four sides.

C are two end pieces for carrying the bearings for the upper chain-wheel shaft. These pieces project some distance above the chain-wheels, and are for the purpose of stopping the progress of the chains in event of the lumber being carried to the top. To each side of the end pieces, C, is securely fastened the plates *c*. This constitutes the top frame.

D D are the chain-wheels at top and bottom of the machine, and are the means by which the endless chains E E are raised and lowered; *d d* are sliding boxes, which carry the upper chain-wheel shaft, and can be raised or lowered by the screw beneath. (See Fig. 1.) The object of this is to allow the chains to be tightened to their proper tension.

The two ends of the top frame, C *c*, (see Fig. 4,) are beveled toward the back of the machine, the object of this being that while the chains are traveling up the front of the machine they are directly in front of the two front standards, B, and while returning down the back they clear the elevated portion of the frame-work. The upper ends of the four standards B are fastened to the top frame, C, at each corner, and at their lower ends to lugs forming part of the main frame A.

E represents the chains, on which at suitable distances apart are placed the hooks *e e*, having braces F F. Fig. 5 shows an enlarged view of the construction of these hooks. The chain proper can be made either a solid link or it may be constructed with two side links riveted together. The upper portion of the hook *e* is made in one piece and riveted at both sides of the main chain at the lugs *f*. The brace F is also made in one piece and riveted to the following link at both sides, and also to the center of the upper part, *e*. This mode of construction enables the upper part, *e*, to be firmly supported, and by means of the joints *f* allows the chain to lap properly while revolving round the wheels. G G are the four main wheels of the machine for conveying it from one place to another. The two front wheels are placed inside of the main frame, and revolve on a shaft stretching across the machine, while the two back wheels revolve



on an axle, *g*, provided with a ring for the purpose of allowing the wheels to be partially turned in below the main frame when in the act of moving the machine from one place to another.

H represents a series of gear-wheels operated by the handles M, and are so arranged that considerable power is imparted to the chain-wheels D of the device. On the rear shaft, *g*, two of the largest gears and the two chain-wheels are securely fastened.

I is a brake-wheel fastened to the driving-shaft. Over this wheel a brake-strap, *i*, is placed. One end of this strap is fastened to lugs on the box K by a bolt, the other end passing through the rod *j*, and being fastened beneath by a nut. *k* is the foot-lever for operating this device, and is fastened to the main frame at one end and to the rod *j* near the center of the machine. The object of this brake is to regulate the speed of the chains while lowering lumber. The rod *j* is also pivoted to the box K and swings loose.

K is an iron box bolted securely to the frame A and provided on the under side with a ring, corresponding with the ring on the axle *g*. The inside of this box is provided with a boss, through which passes a hole. A collar-bolt, passing from the under side of the box, is fastened on top of this boss by a nut. The lower end of this collar-bolt constitutes a pin, which passes through the axle *g*, thereby keeping the back wheels in position by allowing the axle to turn thereon. In the box K can be placed weights, if necessary, when operating heavy lumber.

L is the table on which the lumber is placed. This table swings loose on the stanchion *a*, and is provided near the bottom of the legs with a rod to facilitate the moving of the ma-

chine from one place to another. The top of the table is provided with rollers *ll*, so that the lumber can be moved easily thereon. When the machine is in position and ready for use the table is turned down, as shown, thereby making the whole structure firm and secure.

N is a ladder fastened to the back of the machine for access to and from the top of the piles.

O represents a side elevation of lumber when the pile is finished. Although the drawings show the machine as worked by hand we do not confine ourselves to this form of propulsion. Steam, air, water, horse, or any other kind of power may be substituted to take the place of hand driving-gear.

Having thus described our invention, we claim—

1. The chains E E, having hooks *ee*, in combination with the chain-wheels D, frame A, wheels G, gearing H, brake-wheel I, box K, and table L, substantially as set forth.

2. The chains E E, provided with hooks *ee*, as described, in combination with the vertical standards B, braces *b*, frame C, and ladder N, as specified.

3. The frame A, in combination with the vertical standards B, braces *b*, chains E E, and wheels D, as shown and described.

4. The hooks *e* and braces F, having lugs and pins *f*, in combination with the chain E, as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

SETH LEE.

ROBERT WEIR.

Witnesses:

F. G. TRUESDELL,  
ALFRED W. WYLIE.