

No. 634,586.

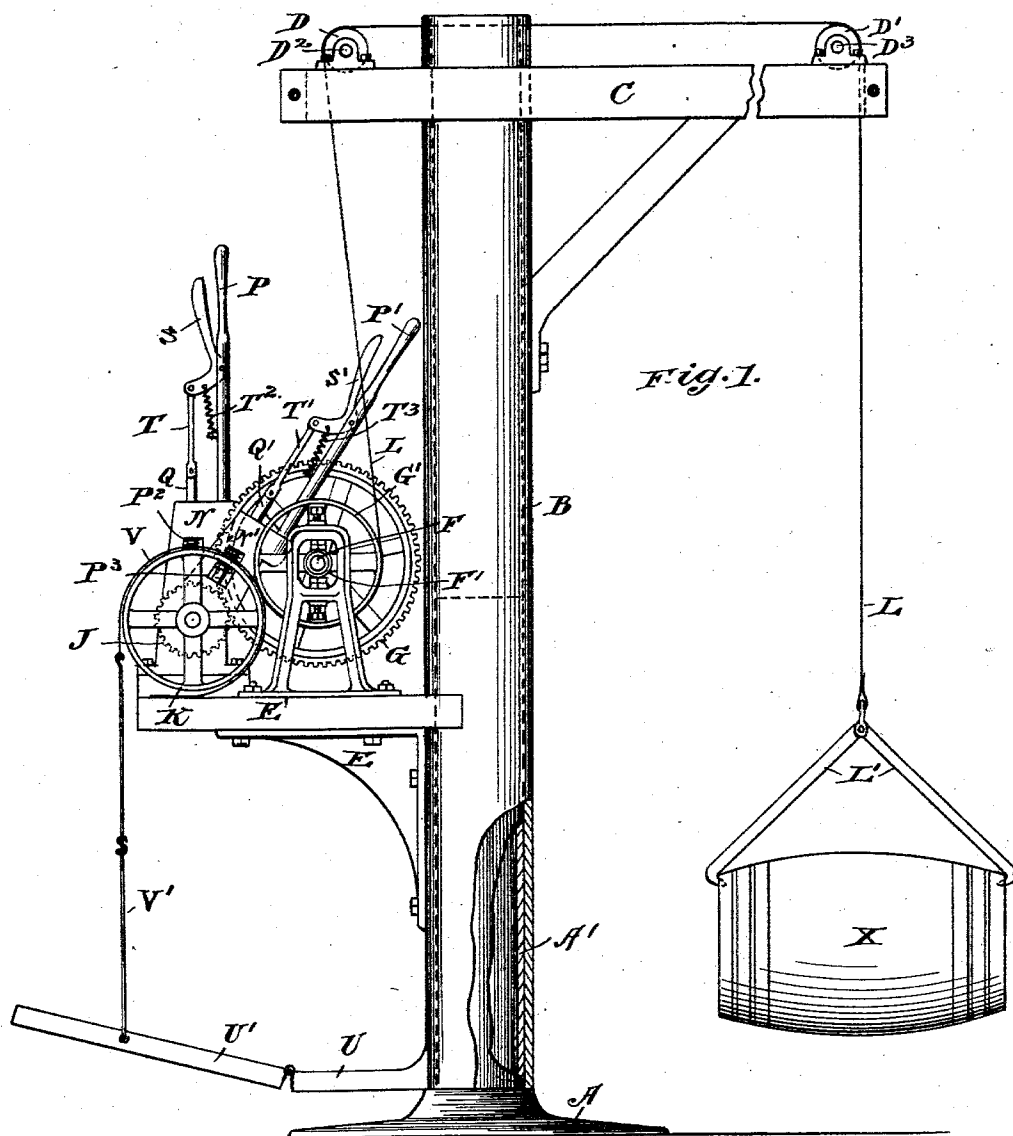
Patented Oct. 10, 1899.

A. P. PETTERSON.
HOISTING MACHINE.

(Application filed Dec. 31, 1898.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses,
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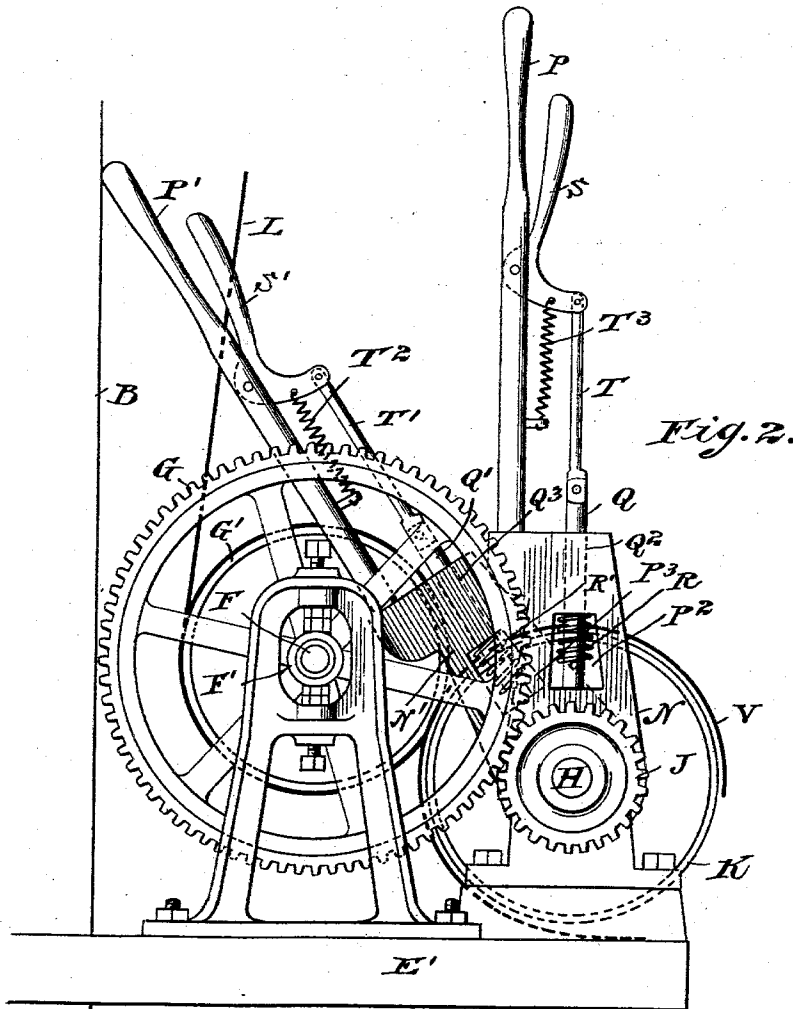
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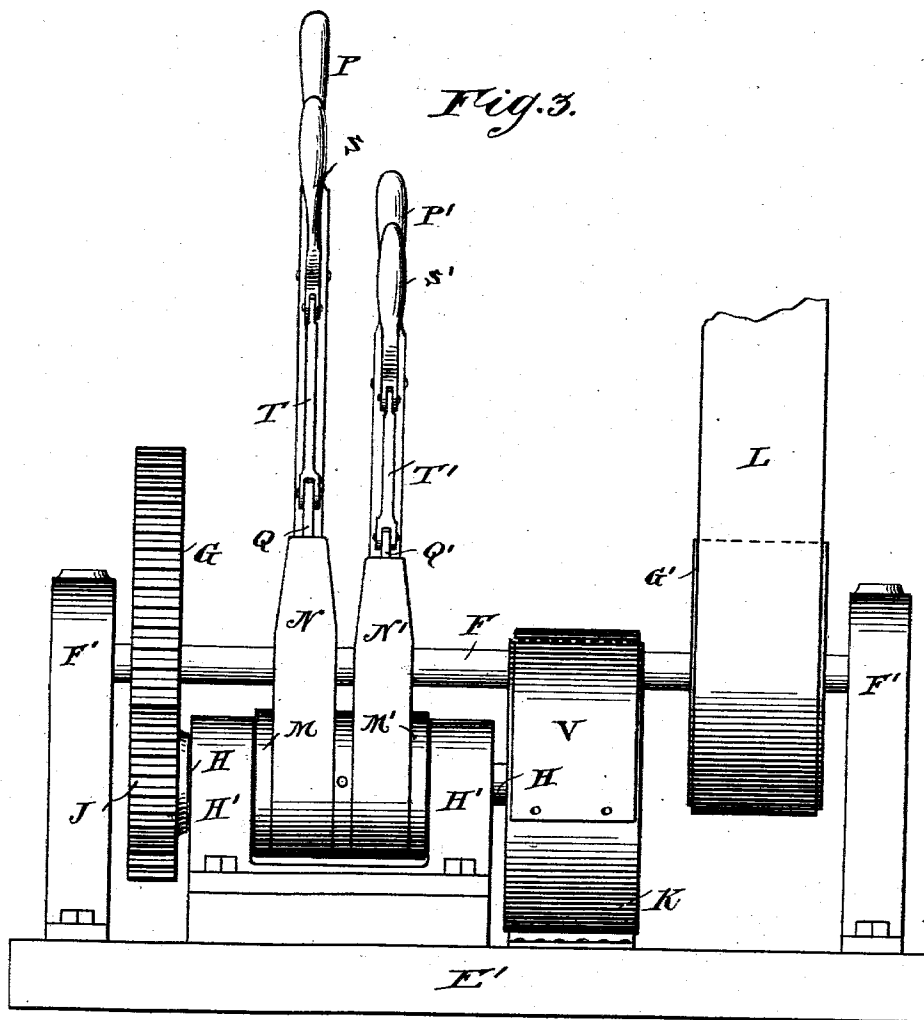
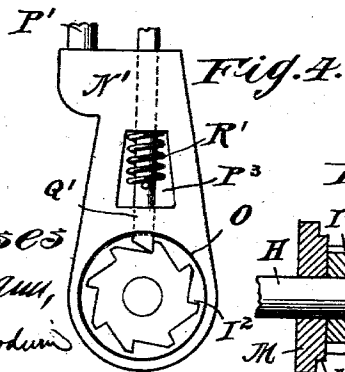
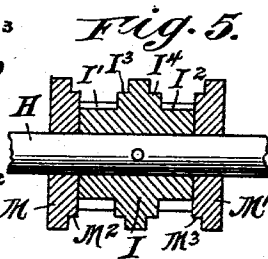
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

ANDERS PONTUS PETTERSON, OF ROCKFORD, ILLINOIS, ASSIGNOR OF ONE-HALF TO MAX HOPPE, OF SAME PLACE.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 634,586, dated October 10, 1899.

Application filed December 31, 1898. Serial No. 700,870. (No model.)

To all whom it may concern:

Be it known that I, ANDERS PONTUS PETTERSON, a citizen of the United States of America, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification.

My invention relates to hoisting mechanism adapted for general use; and it consists of certain new and useful features of construction and combinations of parts hereinafter fully described, and specifically pointed out in the claim.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation of a hoisting-machine embodying my invention. Fig. 2 is an end elevation of combined ratchets, gears, levers, and pulleys comprising the hoisting apparatus proper of the machine. Fig. 3 is a side elevation of the same. Fig. 4 is an end view of a ratchet engaging with one of the lever-pawls. Fig. 5 is a central longitudinal section of the double ratchet of the machine.

Like letters of reference indicate corresponding parts throughout the several views.

A is a base of any suitable form and construction.

A' is a cylindrical column rigidly secured by its lower end to the central portion of the base A.

B is a tubular column adapted to admit the cylindrical column A', about which it is freely rotatable, and having a bearing on the base A.

C is a horizontal jib rigidly secured to the column B.

D D' are pulleys mounted in bearings D² D³ on the horizontal jib C.

The tubular column B and horizontal jib C constitute a crane.

E is a bracket rigidly secured to the column B of the crane.

E' is a shelf supported by the bracket E.

F is a shaft mounted in bearings F', supported by the bracket E and shelf E'.

G is a gear fast to the shaft F.

G' is a hoisting-pulley also fast to the shaft F.

H is a shaft mounted in bearings H'.

I is a double ratchet fast to the shaft H and provided with teeth I' I² and lever-axes I³ I⁴.

J is a pinion fast to the shaft H and meshing with the gear G.

K is a brake-pulley fast to the shaft H.

L is a hoisting-belt fast by one end to the hoisting-pulley G', passing over the pulleys D D', and provided at its other end with grappling-hooks L'.

M M' are washers fast to the shaft H and provided with lever-axes M² M³.

N N' are levers mounted on the axes I³ I⁴ M² M³ on the double ratchet I and washers M M' by means of identical transverse circular openings O therein, one of which is clearly shown in Fig. 4. The levers N N' are provided with handles P P' and recesses P² P³ therein, to contain parts to be described hereinafter.

Q Q' are longitudinally-sliding pawls mounted in bearings Q² Q³ in the levers N N', Fig. 2, and adapted to engage with and be disengaged from the teeth I' I² of the double ratchet I. The pawls Q Q' are held normally into engagement with the teeth of the double ratchet I by means of the springs R R', Fig. 2, in the recesses P² P³ in the levers N N'.

S S' are hand-latches pivoted to the lever-handles P P'.

T T' are rods connecting the pawls Q Q' with the hand-latches S S'.

T² T³ are springs connected with the hand-latches S S' and rods T T', respectively, auxiliary to the springs R R'.

U is an arm projecting from the column B of the crane.

U' is a foot-lever pivoted by one end to the free end of the arm U.

V is a brake fast by one end to the shelf E', passing over the brake-pulley K, and connected by the other end with the foot-lever U' by means of the connecting-rod V'.

X is a barrel in process of being hoisted.

To operate the machine, grasp the handles P P' of the levers N N' and work each of them alternately, disengaging first one pawl Q and then the other, Q', from the double ratchet I by means of the hand-latches S S' after each lever-stroke. Motion will be thereby communicated through the parts I H J G F to the

hoisting-belt pulley G', which will wind up the belt L and through the grappling-hooks L' hoist the barrel X. When it is desired to lower the barrel, the operator will disengage both pawls Q Q' from the double ratchet I and press his foot on the lever U', and thereby brake the machine through the brake-pulley K. Obviously the amount of pressure placed on the lever U' will regulate the rapidity of the descent of the load suspended by the grappling-hooks L'.

I claim—

In a hoisting-machine, in combination, a crane having pulleys mounted on the jib thereof, a duplex pawl-and-ratchet mechanism, consisting of a mounted shaft H, the double ratchet I fast thereto and provided with teeth I' I² and lever-axes I³ I⁴, the washers

M M' fast to the shaft H and provided with lever-axes M² M³, and the levers N N' mounted on the axes I³ I⁴ M² M³ and provided with handles P P' and longitudinally-sliding pawls Q Q' actuated by springs R R', the pinion J and brake-pulley K fast to the shaft H, the shaft F carrying the hoisting-pulley G' and gear G, the hoisting-belt L fast by one end to the hoisting-belt pulley G' and passing therefrom over the pulleys on the jib, and a brake V passing over the brake-pulley K and connected with the foot-lever U' by means of the connecting-rod V', substantially as and for the purpose specified.

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