

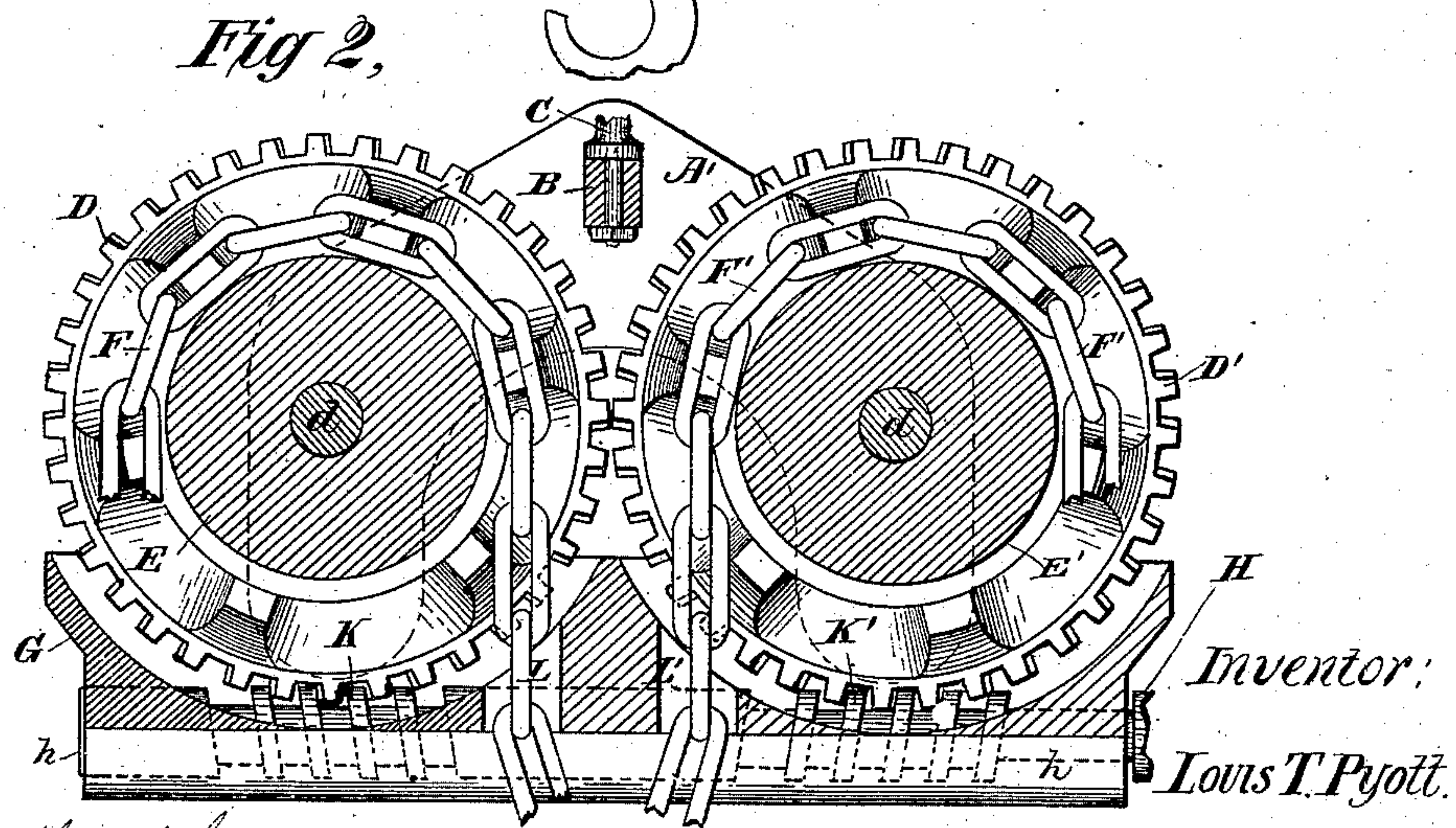
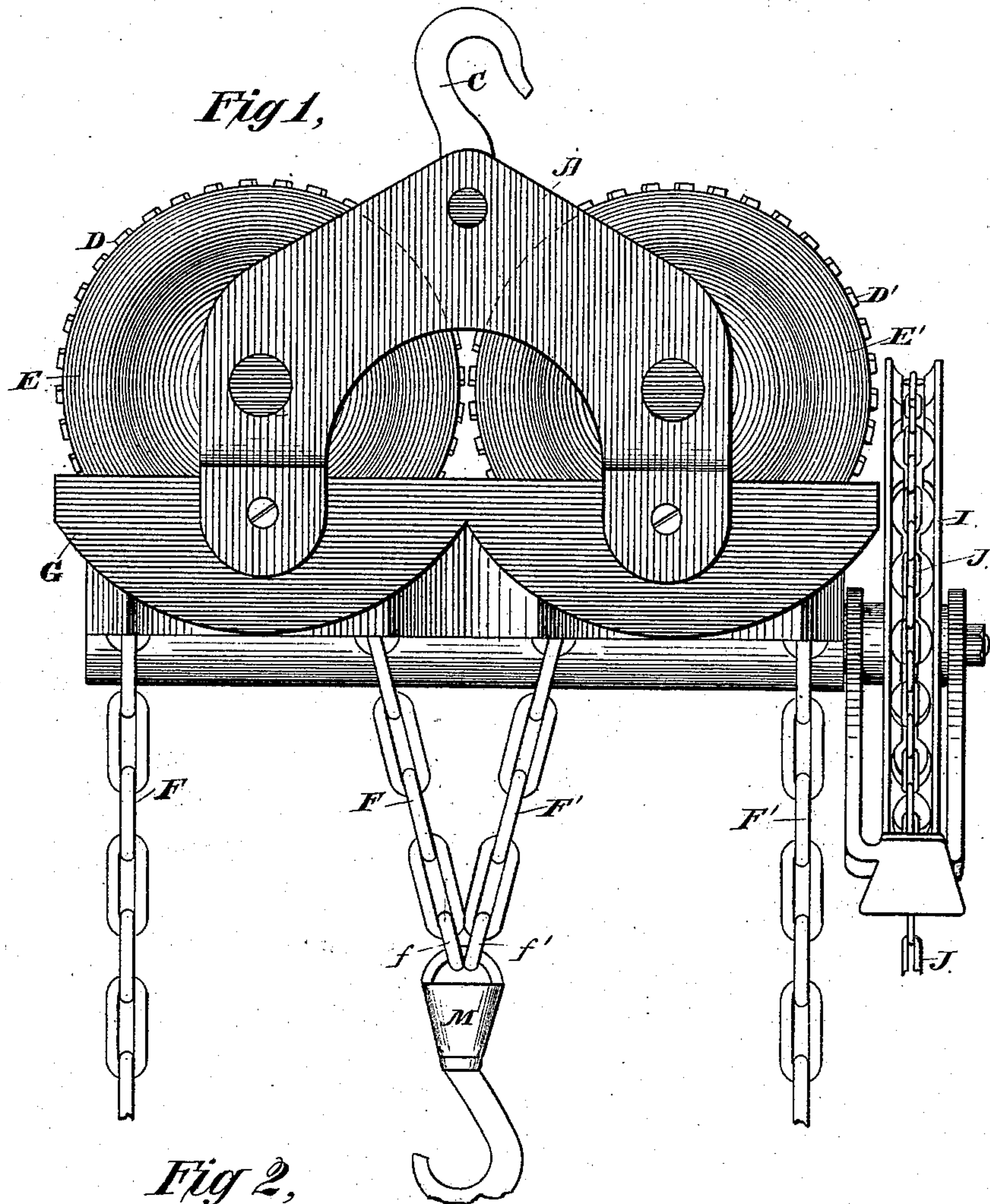
(No Model.)

3 Sheets—Sheet 1.

L. T. PYOTT.
Portable Hoisting Pulley.

No. 235,645.

Patented Dec. 21, 1880.



Attest:

Geo. T. Smallwood Jr.
Walter Allen

Inventor:

Louis T. Pyott.

By *Knight & Co.* attys

(No Model.)

3 Sheets—Sheet 2.

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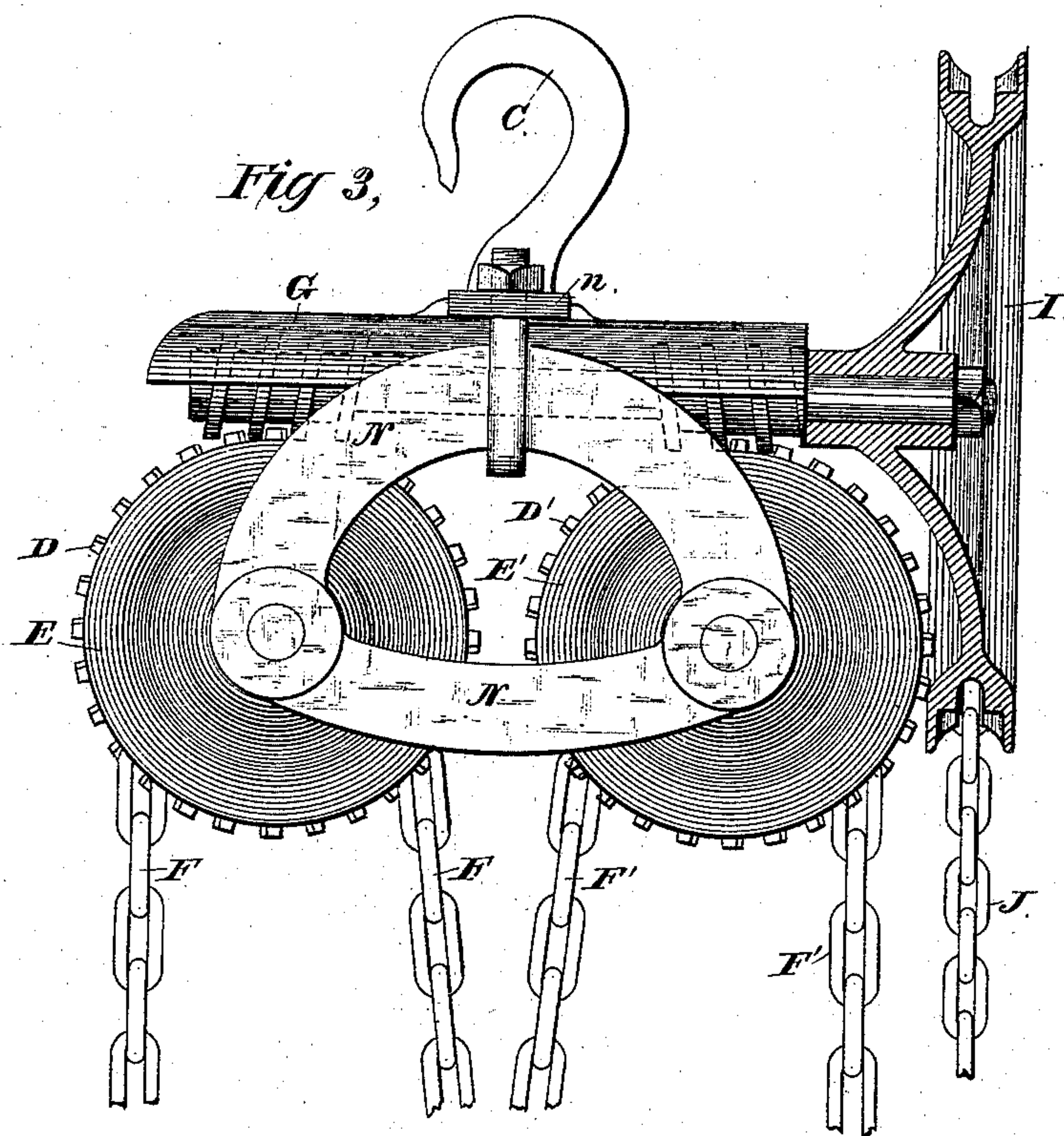
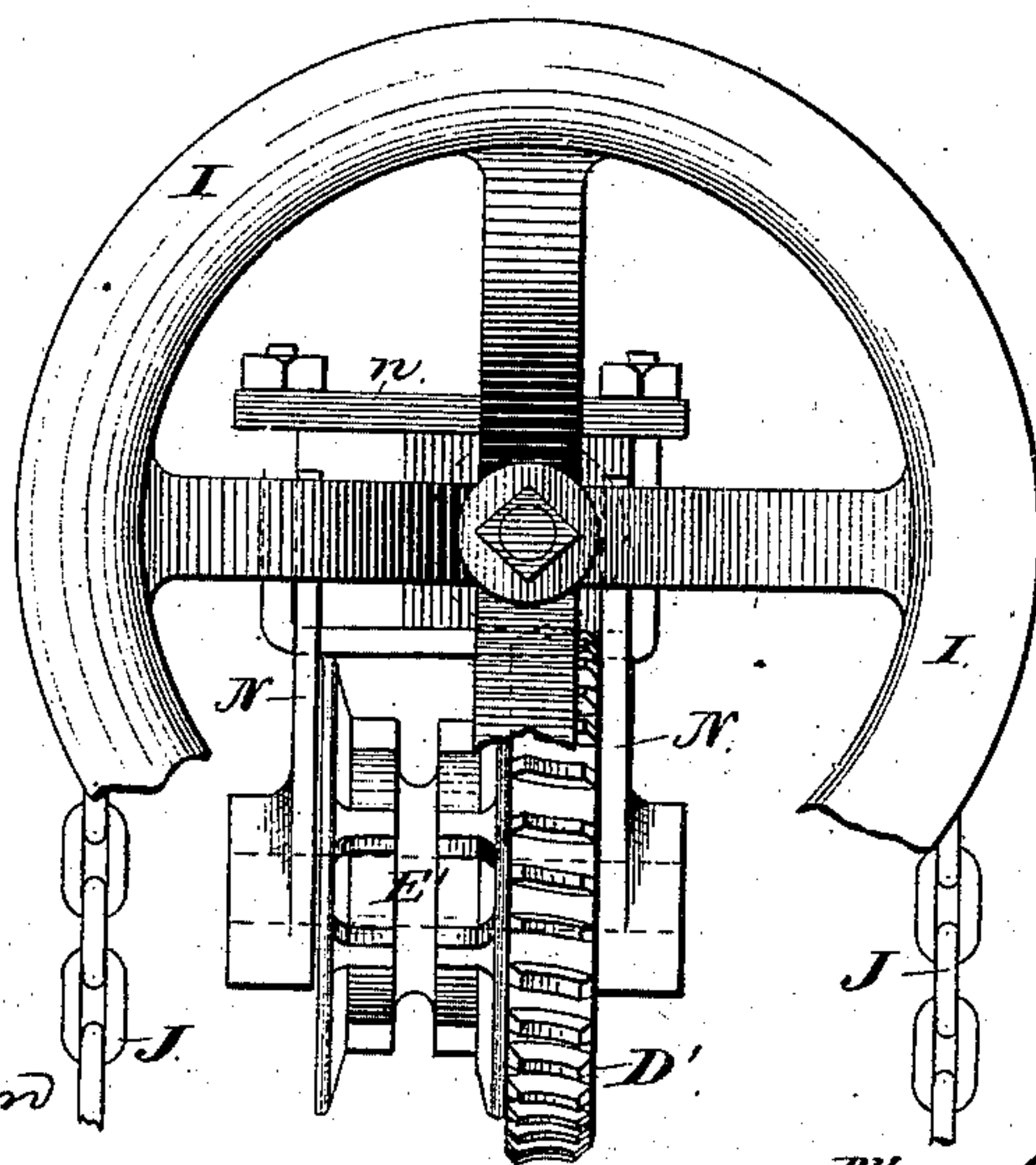


Fig 4,



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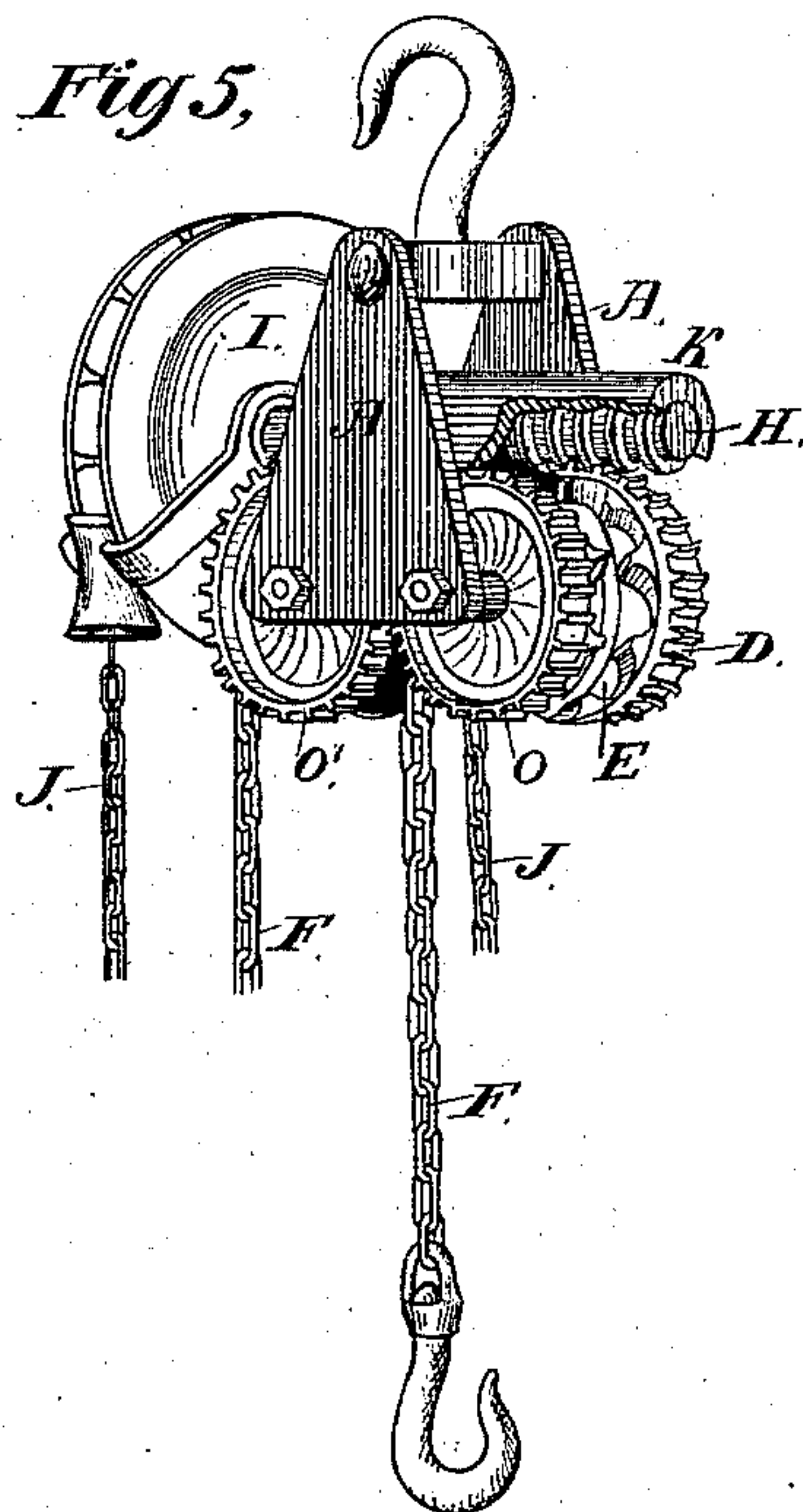
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3 Sheets—Sheet 3.

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Walter Allen

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UNITED STATES PATENT OFFICE.

LOUIS T. PYOTT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
ALFRED BOX, OF SAME PLACE.

PORTABLE HOISTING-PULLEY.

SPECIFICATION forming part of Letters Patent No. 235,645, dated December 21, 1880.

Application filed May 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, LOUIS T. PYOTT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented Improvements in Portable Hoisting-Pulleys, of which the following is a specification.

My invention relates to those forms of portable hoisting-pulleys in which a screw and worm-gear journaled in a hanging frame and driven by an endless hand-chain and sheave serve to slowly rotate a sprocket or chain wheel carrying the hoisting-chain.

My invention consists in the construction of such a hoist with two worm-wheels, both engaging with screws on a single driving-shaft, so that the end stress on the said screw-shaft is balanced, thereby relieving the journals of all end-thrust and consequent friction. A further advantage consequent upon this construction is the use of two independent lifting-chains, both attached to a common hook or grapple in such a manner that should one chain break the remaining one will fall immediately into the line of load.

In order that my invention may be fully understood, I will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a hoisting-pulley constructed according to my invention. Fig. 2 is a section in the plane of the hoisting-chains. Figs. 3 and 4 show, by side and end elevations, respectively, a modification of my invention, in which the screw-shaft is above the worm-wheels. Fig. 5 shows, in perspective, another modification.

A A' represent the two sides of the frame, secured together at top by cross-bar B, to which is pivoted the supporting-hook C. Journaled in the frames A A' at $d d'$ are two worm-wheels, D D', to which are cast or otherwise rigidly secured the sheaves E E', around which pass the hoisting-chains F F'.

The side frames, A A', are attached below to a trough-shaped casting, G, in which is journaled the screw-shaft H at h . On one end of this shaft is secured the hand chain-wheel I, operated by the endless chain J, and at K

K' said shaft is provided with right and left screws, respectively, which mesh with the oppositely-threaded worm-wheels D D', and when rotated by pulling on chain J causes said wheels to revolve in opposite directions, and thus conjointly raise or lower the chains F F'. The hoisting-chains pass through and are guided by the cruciform orifices L L' in the bottom of the casting G, and their two inner ends, $f f'$, are secured to hook or grapple M.

It will be noticed that the two chains $f f'$ are nearly in the line of load, and that should one of them break from any cause the remaining one will immediately fall into the line of load, thus rendering the device safe as well as effective.

The hand chain-wheel I may either be secured directly to the screw-shaft, as shown, or may communicate with it through gearing, if greater power be desired.

The screws K K', being oppositely threaded, will, of course, tend to move the shaft H longitudinally with equal force in opposite directions, and thus relieve the journals h of all longitudinal thrust and consequent friction, and so effecting a direct saving of power.

Figs. 3 and 4 show a modified form of my invention adapted for lighter work. In this form the screw-shaft H is placed above the worm-wheels, while said wheels are supported by hangers N extending downward from the screw-shaft housing G, and braced by a horizontal arm, n , extending between the journals of the worm-wheels.

In the modification shown in Fig. 5, O O' are two intermeshing spur-wheels, one on each worm-wheel shaft, whereby one worm-wheel is made to assist the other when only one lifting-chain is used.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a portable chain-hoist, the two oppositely-threaded worm-wheels D D' and their rigidly-attached chain-sheaves E E', said wheels operated by right and left screws K K' on a common shaft, H, for the purpose set forth.

2. The frame for supporting the screw-shaft

and worm-wheels, consisting of the parts A A' B and trough-shaped base G, said base being provided with the two central cruciform orifices, L L, and the two end orifices, L' L',
5 as shown, and for the purpose set forth.

3. The combination of the two oppositely-threaded worm-wheels D D', having the chain wheels or sheaves E E' rigidly attached to them, the screw-shaft H, provided with right
10 and left screws K K', and the hand-chain J and sheave I, as and for the purpose specified.

4. The combination of the two worm-wheels D D' and the right and left screws K K' with the intermeshing gear-wheels O O', one on each worm-wheel shaft, substantially as set forth. 15

LOUIS T. PYOTT.

Witnesses:

THEO. F. SCOTT,
ALFRED BOX.