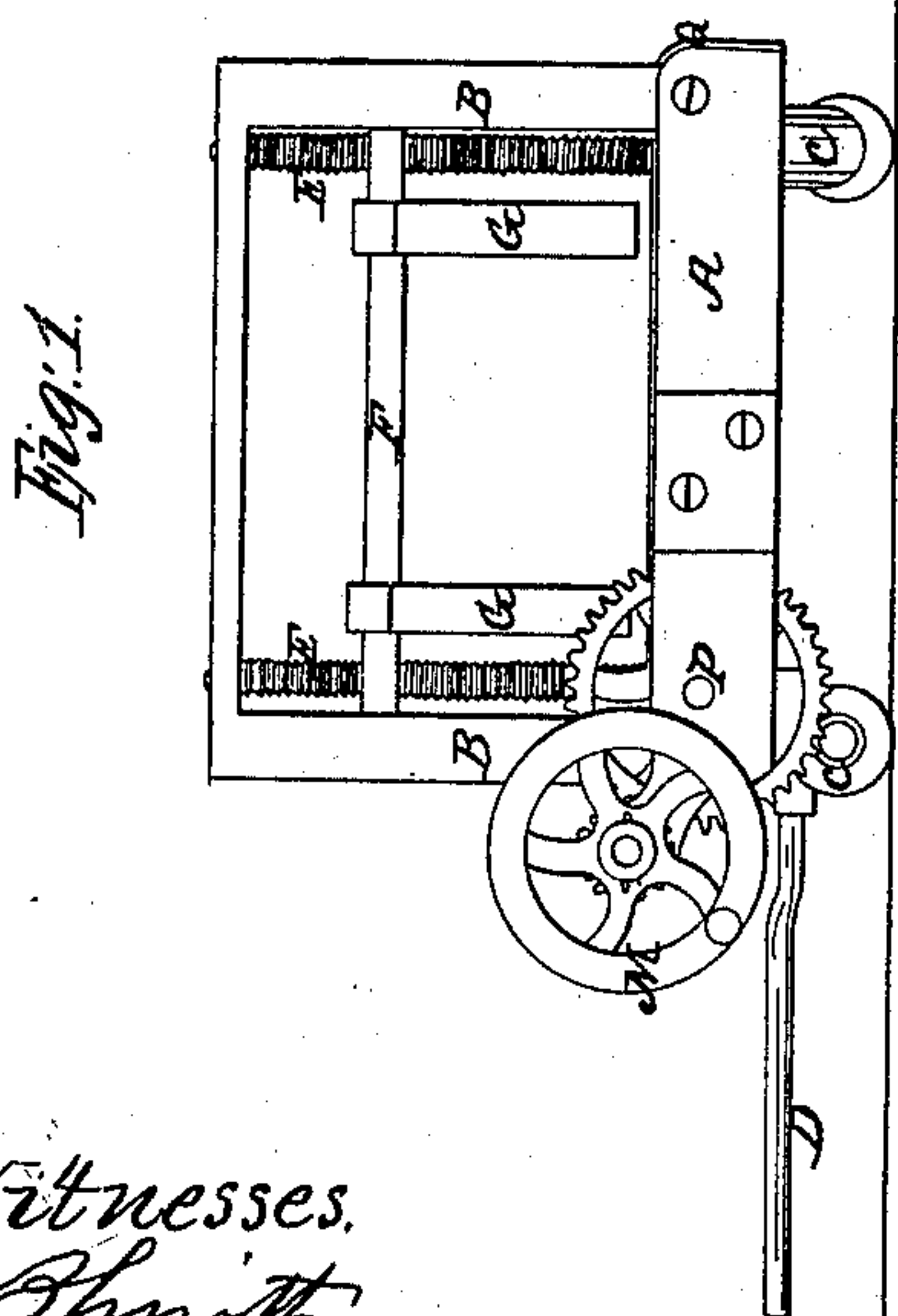
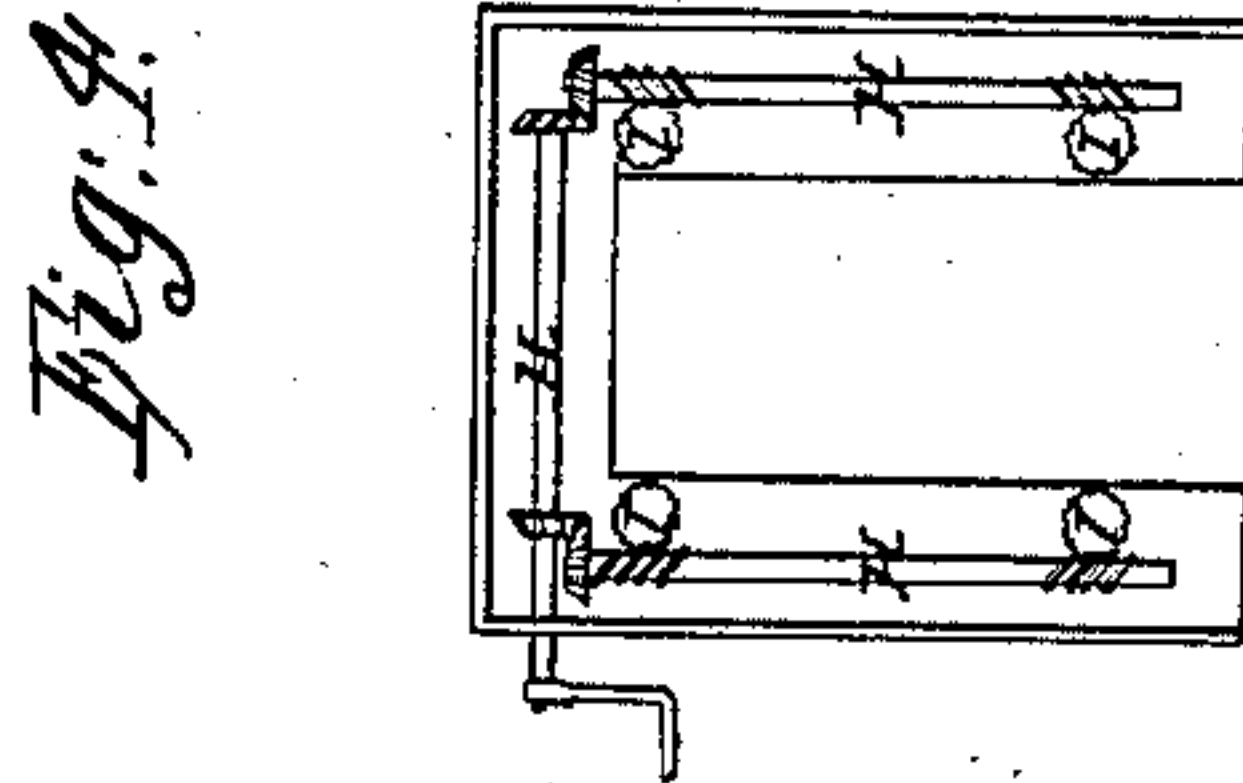
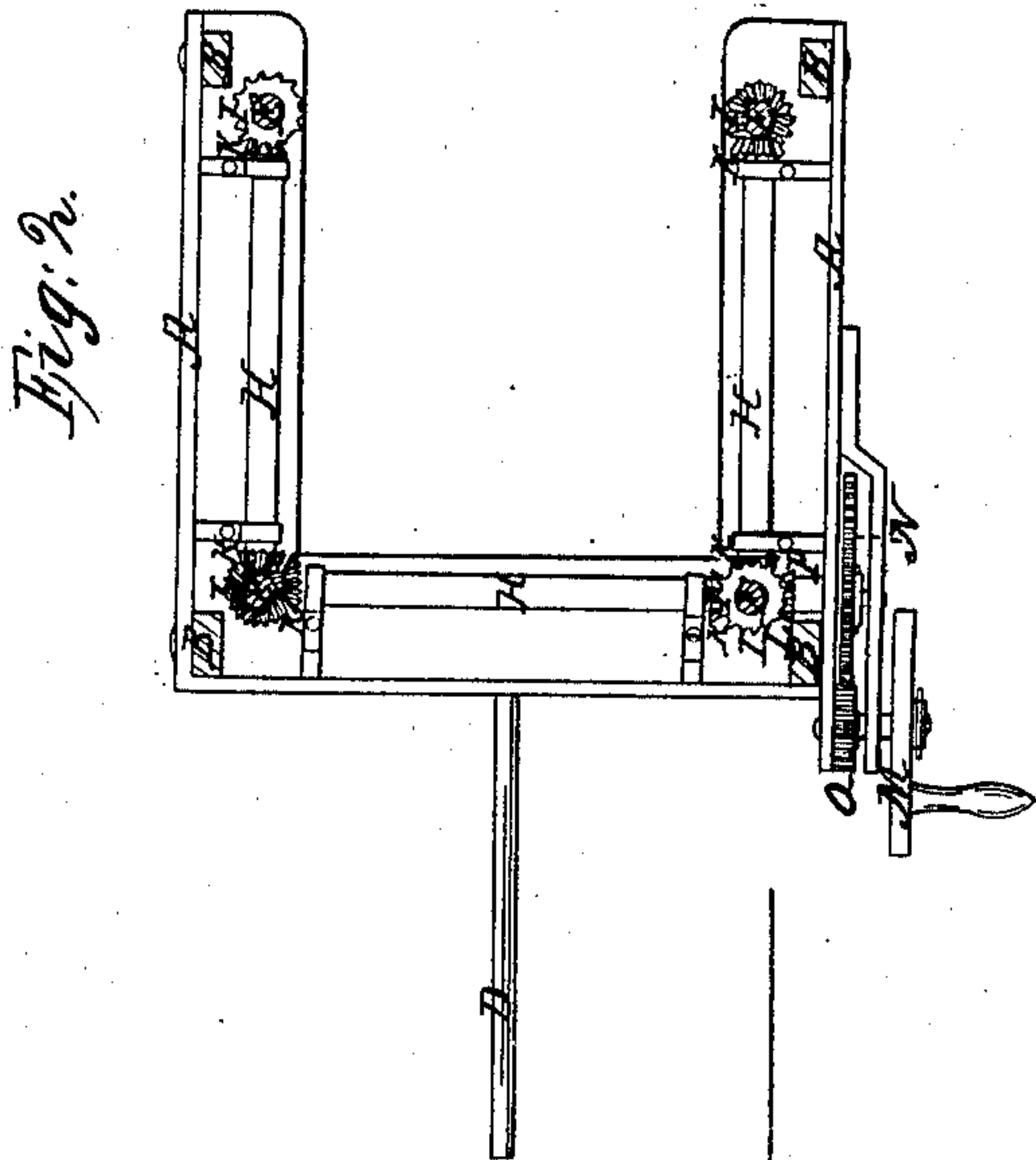
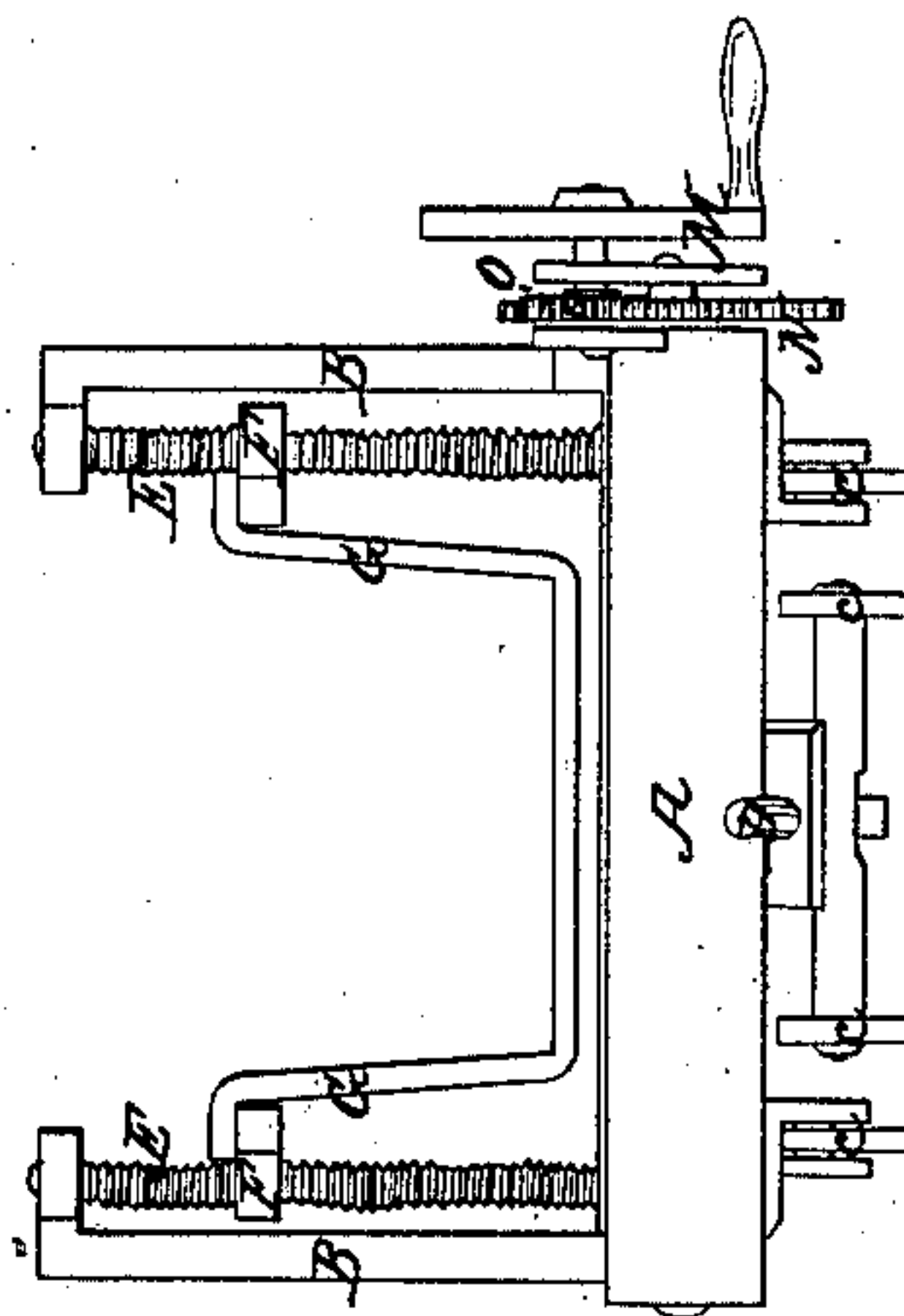


*C. Whittaker,*  
*Lifting Jack.*  
*No 79,883.* *Patented July 14, 1868.*



*Fig. 3.*



*Witnesses.*  
*W. Smith*  
*Percy B. Smith*

*Inventor.*  
*Charles Whittaker*

# United States Patent Office.

CHARLES WHITTAKER, OF MILWAUKEE, WISCONSIN.

*Letters Patent No. 79,883, dated July 14, 1868.*

## IMPROVEMENT IN APPARATUS FOR MOVING HEAVY BODIES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES WHITTAKER, of the city and county of Milwaukee, and State of Wisconsin, have invented a new and useful Improvement in Apparatus for Raising and Moving Heavy Bodies; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a side view.

Figure 2, a top view of the bed-frame and gearing, with the covers to keep out dirt removed.

Figure 3, a front end view.

Figure 4 showing worm-wheels and endless screws.

Similar letters of reference in each of the figures indicate corresponding parts.

The object of my invention is to provide a machine for raising heavy bodies, and moving the same to any desired point with facility.

A is the bed-frame.

B, posts at each corner of the bed-frame, with girts or plates on their tops, running longitudinally of the machine.

C, wheels under the machine, the two under the rear end fixed, and the two under the front end with an axle common to both, with bolster, king-bolt, and tongue.

D, tongue with which to move the machine.

E, upright screws, their lower ends centred, standing on steps, and their upper ends in holes in the girts on the heads of posts B.

F, side-beams, through which pass screws E.

G, loops or stirrups, hanging on side-beams F, with which to lift loads.

H, shafts hung in bearings, with which to operate screws E.

I, bevel-wheels on screws E.

K, bevel-wheels on shaft H, gearing into bevel-wheels I.

L, bevel-wheel.

M, crank-wheel.

N, cog-wheel.

O, pinion.

P, shaft on which are bevel-wheel L and cog-wheel N.

Q, covering for the working-gear of the machine.

Fig. 4 is drawn to show my machine when the screws E are made and operated with worm-wheels on the screws E, and endless screws on shaft H, meshing together instead of pinion I and K.

### *Operation.*

Back the machine up to the body to be raised and moved, so that the body shall be between the side-pieces A, the forward strap G hanging in place, the side-beams F having been run down, so that the loop of straps G can be slipped under the load to be raised. Slip the straps G under the load, one at the front end, the other at the rear, then the load will be above the bag or loop of the straps, the upper ends of the straps hooked over beams F. When the operator turns crank-wheel M by the operating-handle, it will turn pinion O, which, meshing into cog-wheel N, turns shaft P and pinion L, gearing into pinion I on the first screw E, and that, with pinion K, turning shaft H, putting all the screws in motion at the same time, and as the screws turn, beams F are raised, and with them the straps G, raising the load, which, when raised high enough, by pulling on tongue D, the machine, with its load, is taken to any point desired, and then the load can be raised higher, if required, and blocked up, when, by reversing the motion of crank-wheel M, the load is lowered on to the blocking, and the machine may then be removed, leaving the load in place.

The screws E, as shown in the drawings, are all cut right-hand, and the bevel-gear on them is arranged so as to have them turn all one way. The gear-wheel on the first screw is above the gear-wheel on shaft H, gearing into it, and the gear-wheel on the other screw, on the same side of the machine, is below the wheel on shaft H, as is also the bevel-wheel on the forward screw, opposite the first screw; and the bevel-wheel on the other hind screw is above the wheel on shaft H, meshing into it. This arrangement secures the operation of the screws all in one direction when crank-wheel M is turned.

As an equivalent to this arrangement, I sometimes use worm-wheels on screw E, and endless screws on shafts H, arranged as shown on fig. 4, for the purpose of operating the screws all one way, and thus prevent the necessity of having my screws cut part right and part left hand.

What I claim as my invention, and desire to secure by Letters Patent, is—

The portable hoisting-apparatus, consisting of a frame, A, mounted on wheels, with a series of vertical screws, E, with the bars F and stirrups G arranged to be operated by bevel-gear attached to the horizontal shafts H, all substantially as described.

CHARLES WHITTAKER.

Witnesses:

J. B. SMITH,

PERCY B. SMITH.