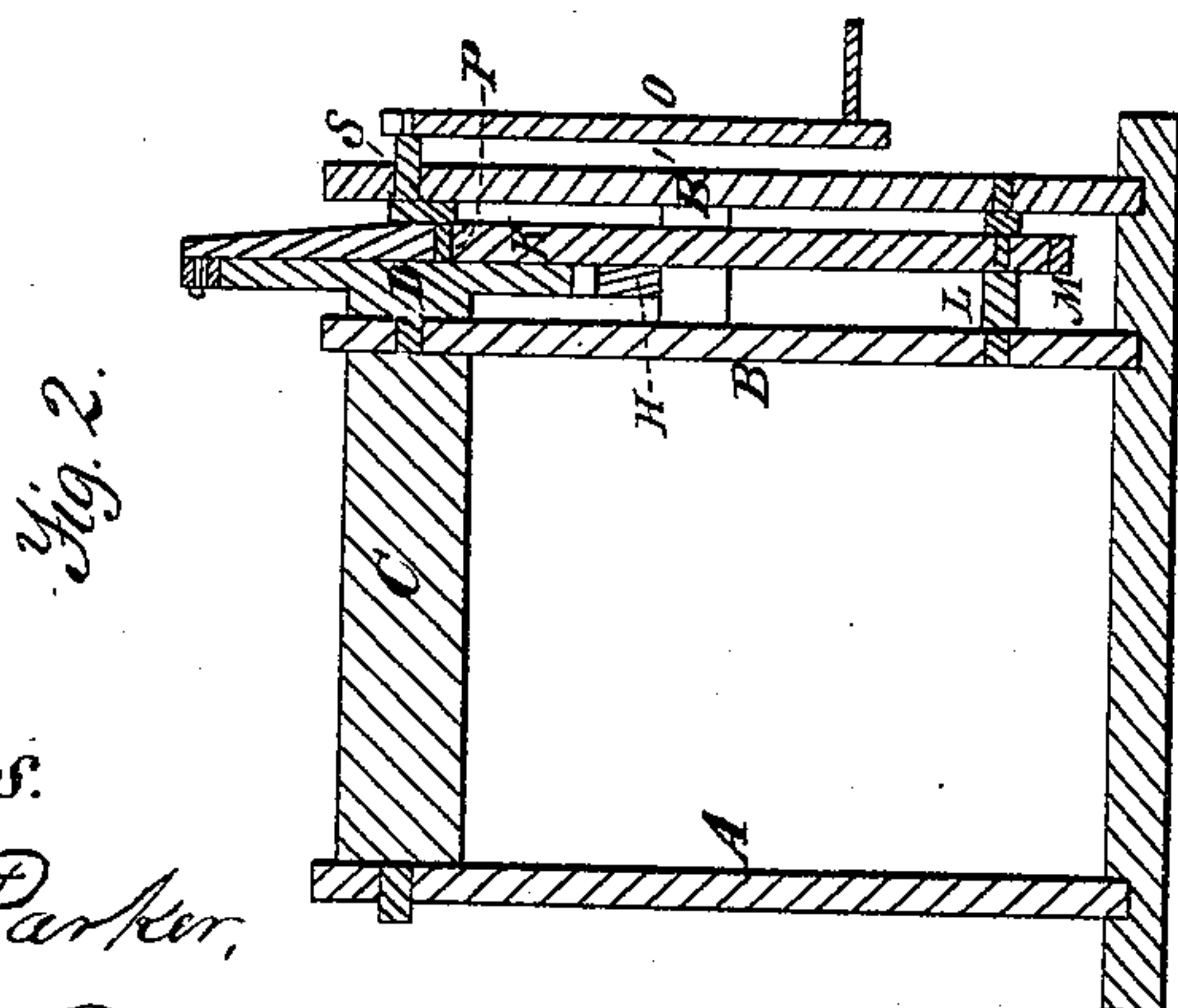
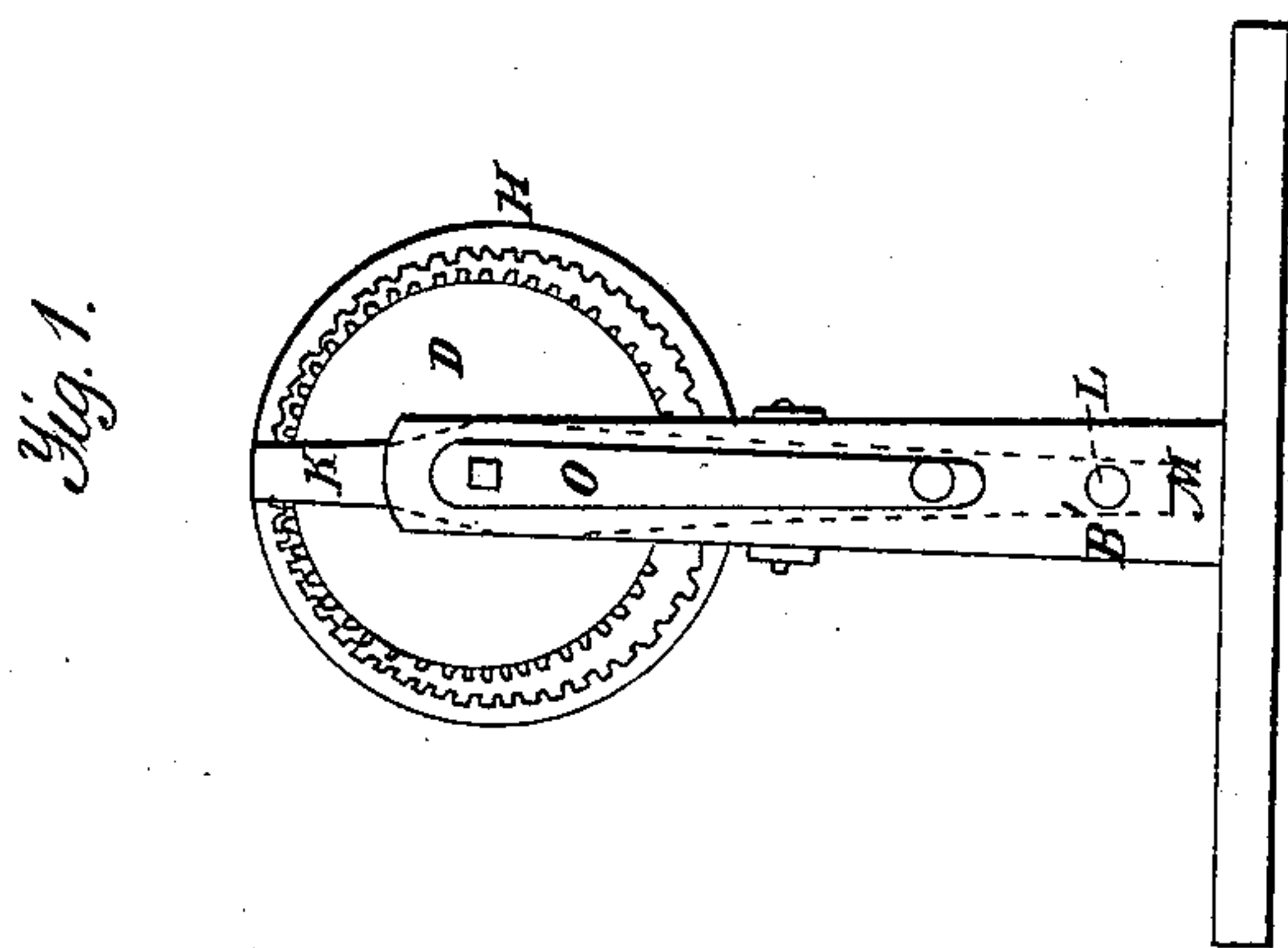
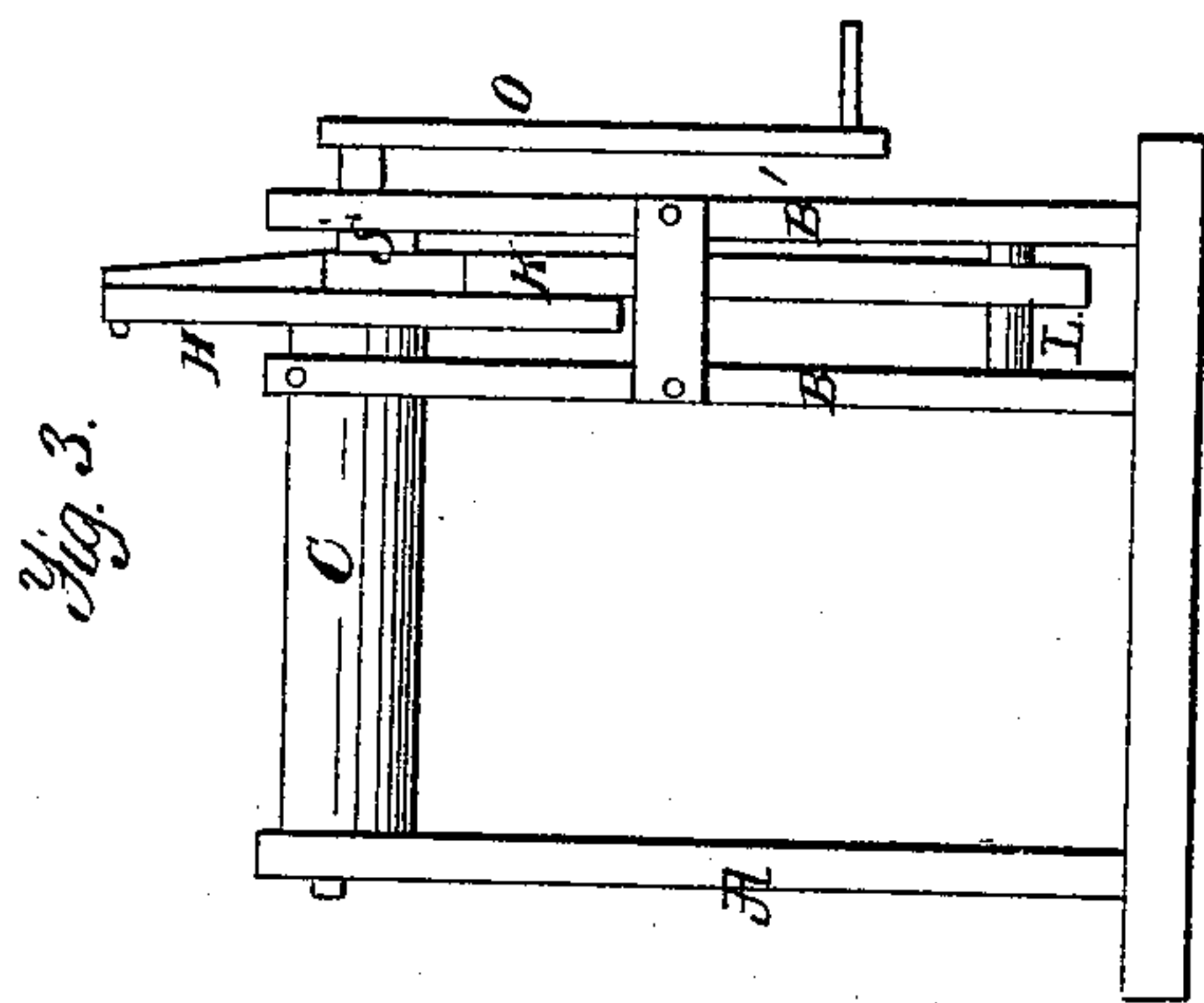


H. F. Shaw,

Windlass.

N^o 64,915.

Patented May 21, 1867.



Witnesses:

Frank G. Parker,

A. Horn Bury.

Inventor:

Henry F. Shaw.

United States Patent Office.

HENRY F. SHAW, OF WEST ROXBURY, MASSACHUSETTS.

Letters Patent No. 64,915, dated May 21, 1867.

IMPROVEMENT IN HOISTING-GEAR.

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, HENRY F. SHAW, of West Roxbury, in the county of Norfolk, and State of Massachusetts, have invented certain new and useful Improvements in Hoisting-Gear; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in a device for giving circular motion to a spur gear-wheel, by the oscillating motion of an internal ring-gear.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and use. In the drawings—

Figure 1 is an end elevation of my improved hoisting-gear.

Figure 2 is a vertical section through the same.

Figure 3 is side elevation of the same.

A B B' represents the standard or frame in which my hoisting-gear is hung. C is the winding-barrel, made of wood or metal, as desirable. Attached to one end of this winding-barrel is a spur gear, D, figs. 1 and 2. Surrounding the gear-wheel D is a ring-gear, H, as shown in the drawings. The ring-gear H is larger in diameter than the gear D, so that but a few of the teeth mesh together. The ring-gear H is attached permanently to the lever K, which has an elongated slot, M, figs. 1 and 2, near its lower end. Through this slot a pin, L, passes, so that the lever K, with the ring-gear H attached, is free to move up and down and to oscillate, so that all parts of the internal ring-gear H may be brought successively into contact with all parts of the circumference of the gear D. The shaft S, figs. 2 and 3, is independent of the barrel C, and is provided with a crank-pin, P, fig. 2, which passes through the lever K, so that whenever the shaft S is revolved it gives a vertical and an oscillating motion to the lever K, and consequently causes the centre of the ring-gear H to traverse in a circle whose diameter is equal to the difference of the diameters of the pitch lines of the spur-gear and the ring-gear.

If we cause the ring-gear H to traverse as above described, its point of contact with the spur-gear D will revolve around the said gear, and at the same time will cause it to revolve on its own centre in the opposite direction, the leverage being in the ratio of the differences of the two diameters to the diameters of the spur-gear. If desirable, the ring-gear H may be attached permanently to the barrel, and the spur-gear D be attached to the crank-shaft and lever K.

Having thus described my invention, I will proceed to set forth my claim. What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination as well as the arrangement of the ring-gear H and spur-gear D, operating as described and for the purpose set forth.
2. The combination of the ring-gear H with the lever K, made substantially as described and for the purpose set forth.

HENRY F. SHAW.

Witnesses:

FRANK G. PARKER,
A. HUN BERRY.