

J. WOOLF.
Mechanical Movements.

No. 146,301.

Patented Jan. 6, 1874.

FIG. 1.

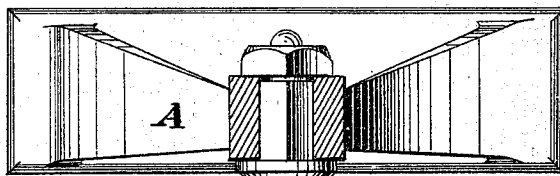
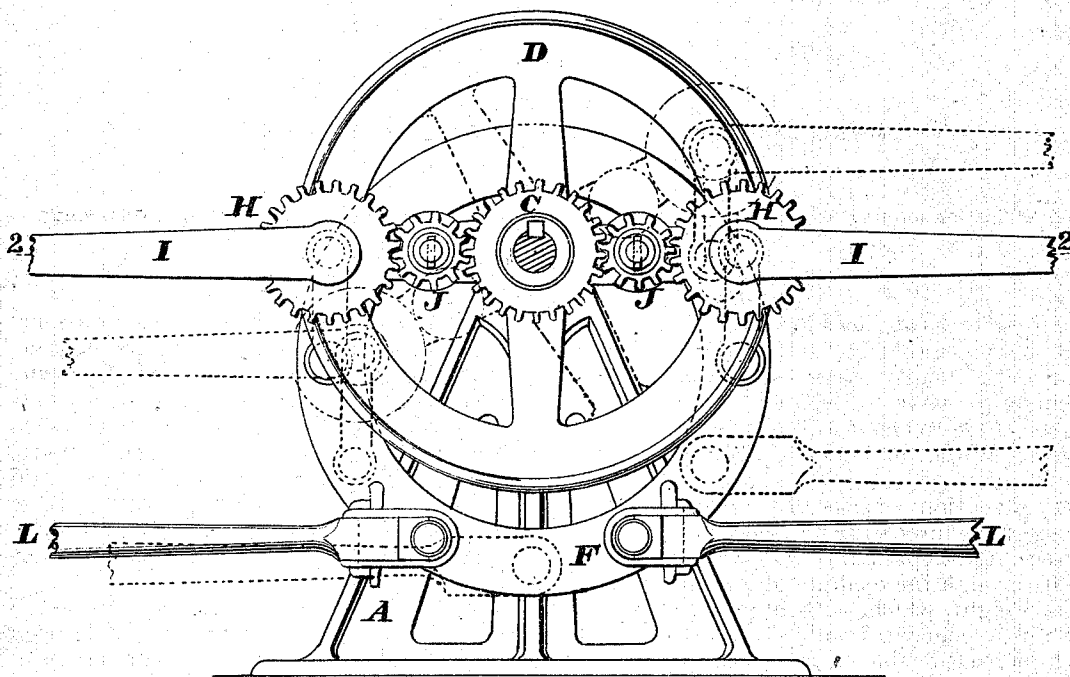


FIG. 2.

WITNESSES

Geo. L. Quinn
Walter Allen

INVENTOR

Jacob Woolf
By *Knigh & Sons* Attorneys

UNITED STATES PATENT OFFICE.

JACOB WOOLF, OF BURR OAK, MICHIGAN.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **146,301**, dated January 6, 1874; application filed December 22, 1873.

To all whom it may concern:

Be it known that I, JACOB WOOLF, of Burr Oak, in the county of St. Joseph and State of Michigan, have invented a new and useful Improvement in Mechanical Movements for Transmitting Power, of which the following is a specification:

My invention consists in a device by which a vertical reciprocating movement may be converted into a horizontal reciprocating movement through the medium of a suspended annular weight, which, without rising or falling, but by a concentric rotary movement, acts with increased momentum toward the end of each stroke.

In the accompanying drawing, Figure 1 is a front elevation of the device. Fig. 2 is a horizontal section of the same on the line 2 2, Fig. 1.

A is a pedestal supporting a stationary shaft, B, on the front end of which is keyed a stationary gear-wheel, C. A pair of wheels, D D', connected by a sleeve, E, are fitted to turn upon the shaft B. Between the wheels D D', and surrounding the shaft B, but disconnected from the said shaft, is an annular weight, F, suspended from the rims of the wheels D D' by cranks G, on the forward wrists of which are keyed gear-wheels H and arms I. Idle-pinions J, turning freely on stud-shafts K on the wheel D, connect the gear-wheels H with the stationary central gear-wheel C, so that press-

ure applied to the arms I will impart a rotary movement to the wheels D D', and thence, through the medium of the cranks G, to the annular weight F. Pitmen or connecting rods L are pivoted to the annular weight F, so as to communicate to any objects desired a reciprocating rectilinear movement in a horizontal direction by the reciprocating rotary movement of the annular weight F produced by vertical pressure on the two arms I alternately.

It will be observed from the construction of the apparatus that the annular weight does not rise or fall, and is prevented from tipping, but it receives a concentric reciprocating movement, which is made to impart a nearly rectilinear reciprocating movement to the pitman, the momentum of the weight causing it to act with any desirable increase of force toward the end of the stroke.

It is manifest that the shaft B may be supported at both ends, if preferred.

The following is claimed as new:

The combination of the wheels D D', suspended annular weight F, cranks G, gearing C H J, and pitmen L, one or more, operating as set forth.

JACOB WOOLF.

Witnesses:

OCTAVIUS KNIGHT,
WALTER ALLEN.