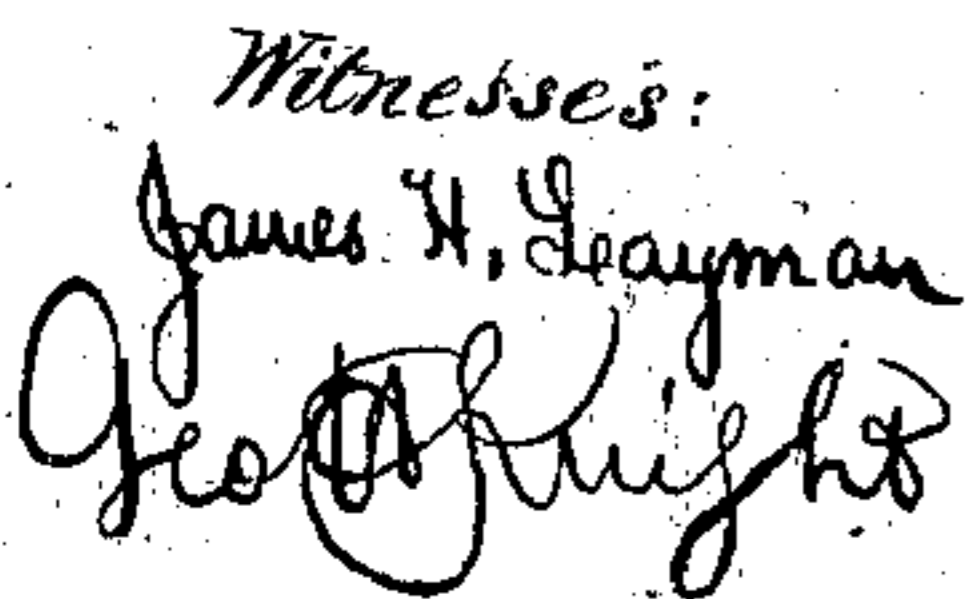


Windlass.

Patented May 30, 1865.



Inventor:

W. C. McGill

UNITED STATES PATENT OFFICE.

WILLIAM C. MCGILL, OF CINCINNATI, OHIO.

IMPROVEMENT IN HOISTING AND LOWERING WEIGHTS.

Specification forming part of Letters Patent No. 47,969, dated May 30, 1865.

To all whom it may concern:

Be it known that I, WILLIAM C. MCGILL, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Mechanical Movement; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification.

The object of my invention is a mechanical device for lowering heavy weights, said device containing an automatic check or lock, which effectually prevents any retrograde movement.

The drawing is a side elevation of an apparatus embodying my invention.

A metallic housing, A, affords journal-bearing for two horizontal shafts, B and C, of which the upper shaft, B, may be provided with a crank, D, or its equivalent, while the lower shaft, C, may have a spur-wheel, E, and be provided with a windlass-drum, F, to which a cord, G, for lowering a weight, H, may be attached. The shaft B also carries a spider or sprocket-wheel, I, having three or more spurs, *i*, which mesh with an internally-toothed ring or annulus, J, whose exterior cogs, *j*, mesh with those *e* of the lower wheel, E, while its interior teeth, *j'*, engage with the spurs of the spider I in the manner shown. In the act of lowering, the crank is rotated in the opposite direction of the black arrow, and causes the teeth or spurs of the spider to press against those on the interior of the annulus, which in turn acts on the lower spur-wheel and thence on the drum; but the instant that the crank action ceases the retroactive force of the weight initiates a backward rotation of the wheel E, which, acting on the annulus, causes it to fall over to the

right side, as indicated, and the point of a tooth impinging at *x* against the spur of the spider before the point *x* reaches a right line from center to center of the shafts, the apparatus becomes instantly locked by the impact and friction of said tooth and spur.

The form of annulus J which I have selected to illustrate my invention has six notches and will lock or check at every sixth part of a revolution. In like manner an annulus having four notches will become automatically locked at a fourth of its revolution, and so on for a less or greater number of notches. The annulus J may be retained against lateral displacement by a disk or washer, whose position is indicated by the dotted line K.

The apparatus may be used for hoisting by rotating the crank D in direction of arrow, or by an opposite rotation of a crank attached to the drum-shaft.

Disclaiming any novelty in my device apart from the provision of the described automatic check in the act of lowering a weight, I claim as new and of my invention and desire to secure by Letters Patent—

1. The mechanical movement composed of the parts A, B, C, E, I, and J, or their equivalents, the whole being combined and operating substantially as set forth.

2. The combination of the spider I and annulus J, constructed and operating as set forth.

In testimony of which invention I hereunto set my hand.

W. C. MCGILL.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.