S. ISCH.

Mechanical Movement.

No. 224,916. Patented Feb. 24, 1880.

Fig. 1.

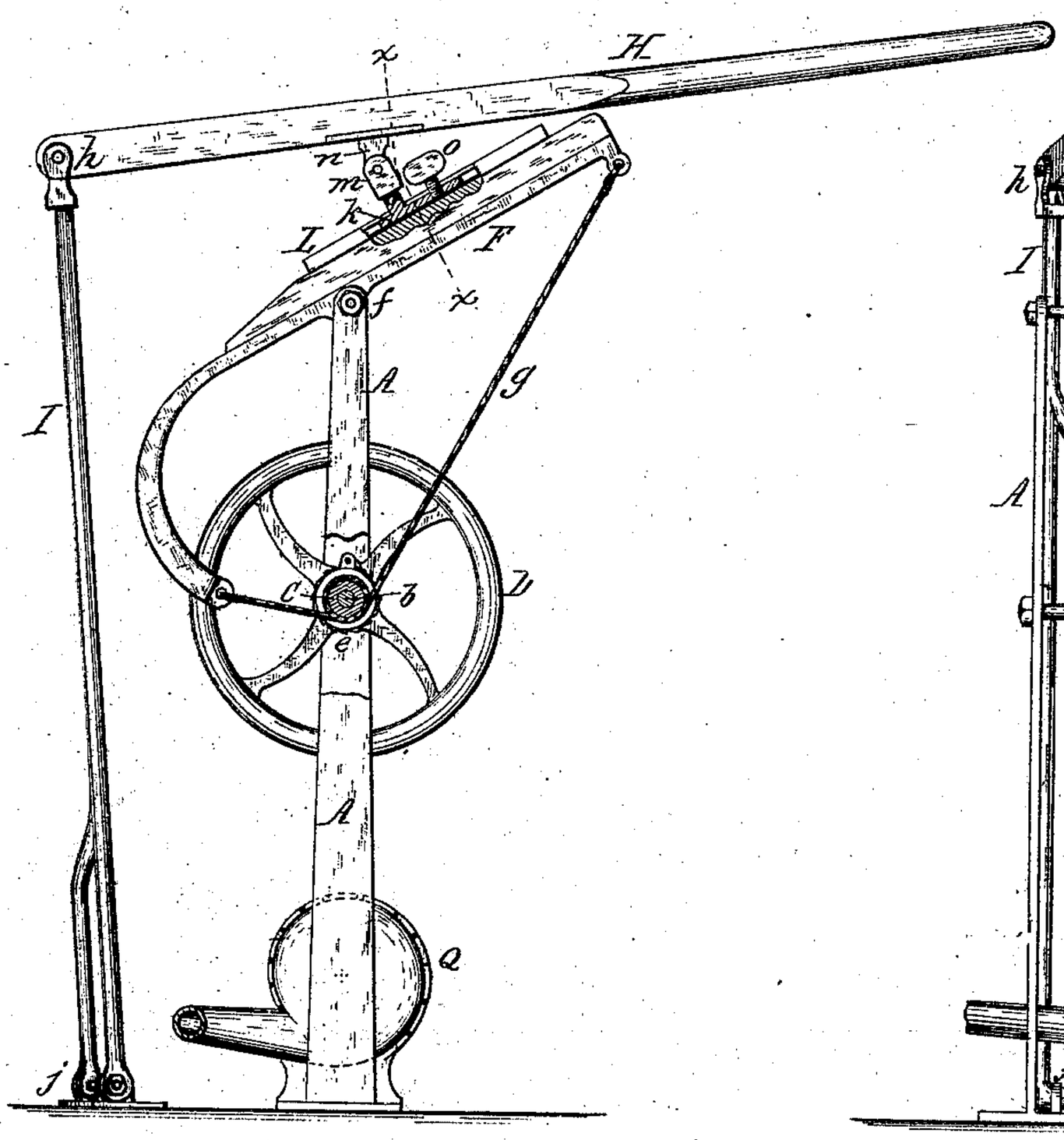


Fig. 2.

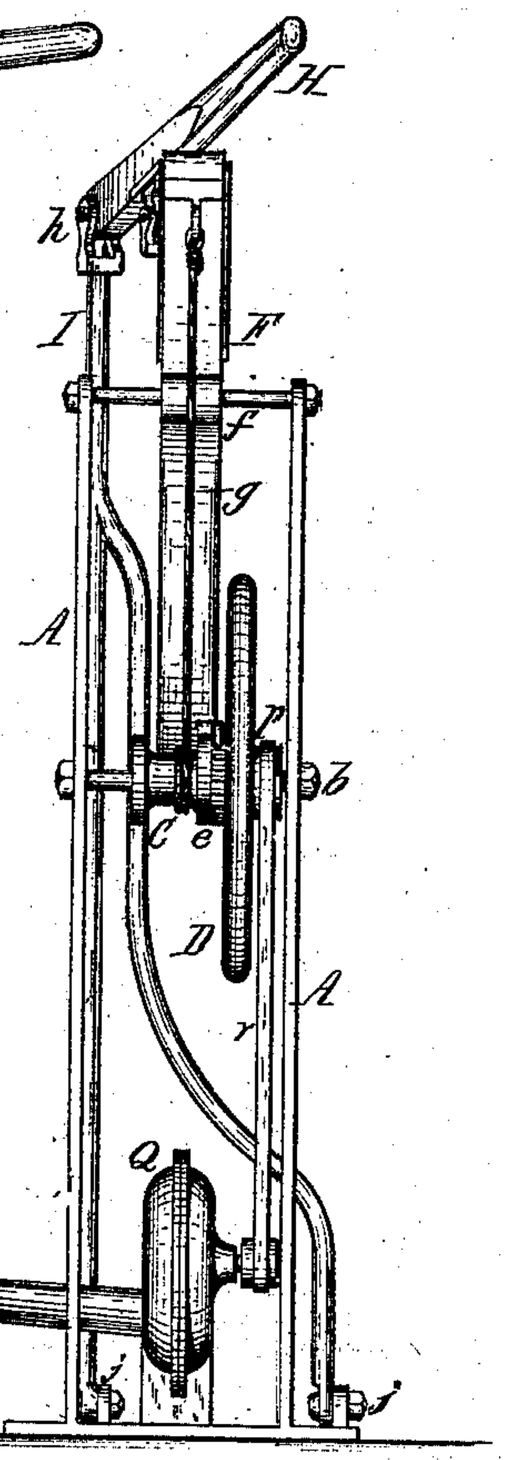


Fig. 3.

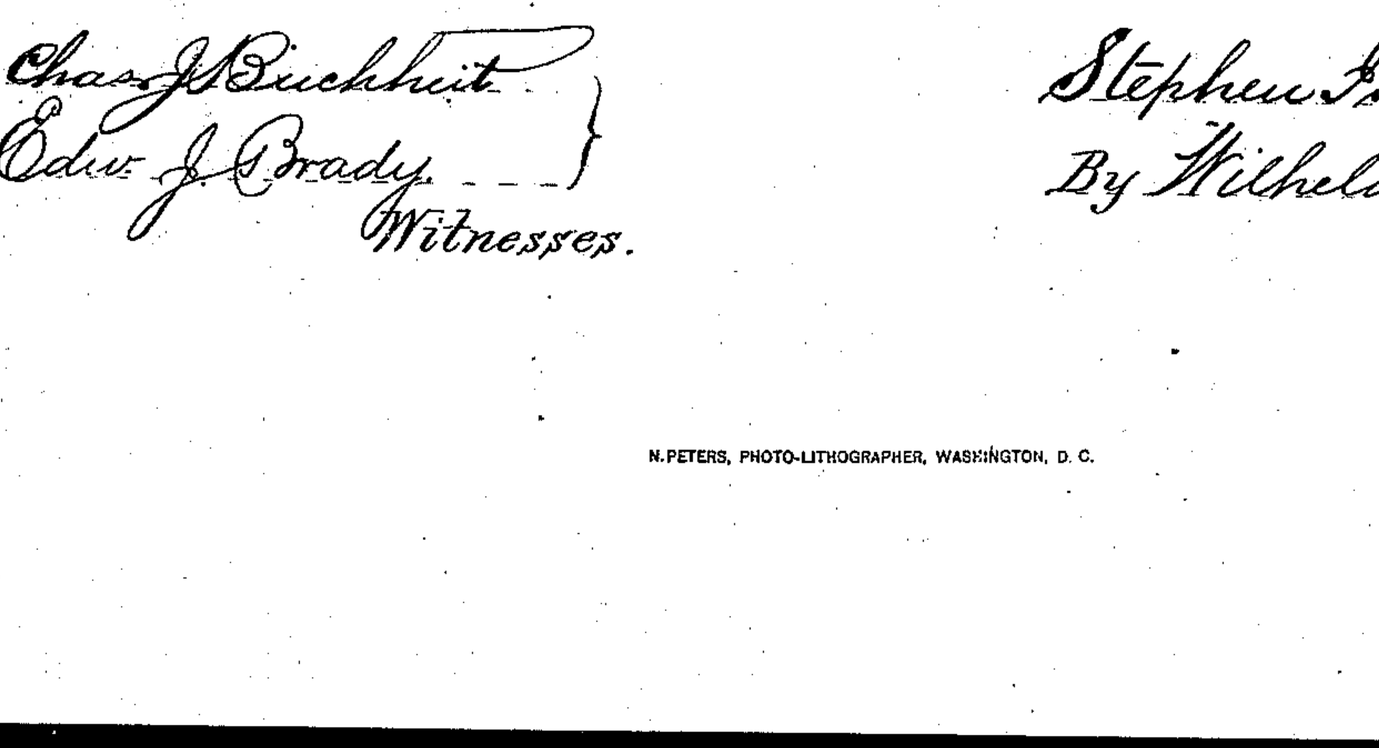
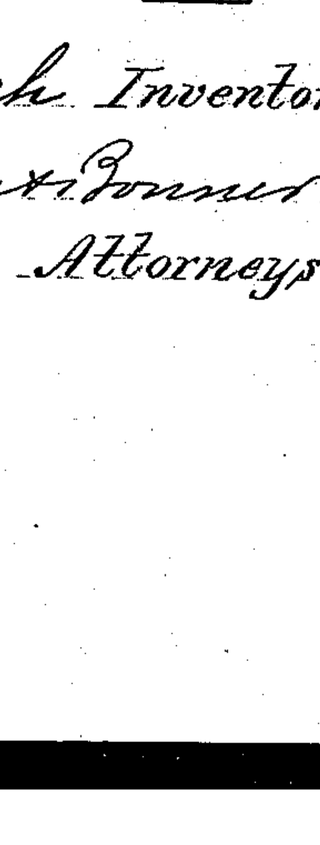


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

STEPHEN ISCH, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO MICHAEL MILLER, OF SAME PLACE.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 224,916, dated February 24, 1880.

Application filed December 2, 1879.

To all whom it may concern:

Be it known that I, STEPHEN ISCH, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Mechanical Movements, of which the following is a specification, reference being had to the accompanying drawings.

The object of this invention is to furnish a simple and effective means for imparting a rotary motion to a pulley or wheel by means of a rocking lever.

My improved movement is more especially designed for imparting motion to the blast-fan of a forge or other apparatus; but it may be advantageously employed for all kinds of machinery which are rotated at a high speed and require but a small amount of power for their operation.

My invention relates more particularly to that class of mechanical movements which consist of a rocking lever which is connected with the wheel or pulley to be rotated by a cord or strap passing around said pulley and having its ends fastened to the rocking lever on opposite sides of its fulcrum.

My invention consists, principally, of an actuating-lever pivoted to a fixed support and connected with the rocking lever in such manner that by a short movement of the actuating-lever a comparatively large movement of the rocking lever is produced; also, in connecting the actuating-lever with the rocking lever in an adjustable manner, whereby the relative movements of the lever can be altered or regulated; also, of certain details of construction, as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of my improved mechanical movement. Fig. 2 is a rear elevation thereof. Fig. 3 is a top-plan view thereof. Fig. 4 is a section in line *x x*, Fig. 1.

Like letters of reference designate like parts in the several figures.

A A represent two vertical posts, securely connected together and supporting a fixed shaft or arbor, *b*, upon which a pulley, C, is loosely mounted. D is a fly-wheel, also mounted loosely upon the arbor *b*, and connected with the pulley C by any suitable ratchet mechanism or clutch-coupling, *e*, in such manner that the forward movement of the pulley C will impart a forward movement to the fly-wheel D, but that the reverse movement of the pulley C will have no effect upon the fly-wheel D, which latter continues its forward movement, by reason of its momentum, during the reverse movement of the pulley C.

F represents the rocking lever, which has its fulcrum at *f* between the upper ends of the posts A. The front end of the rocking lever F is bent down and provided with a cord, band, or strap, *g*, which is wound around the pulley C, and runs thence to the rear end of the lever F, so that by a rocking motion of the latter a rapidly-rotating motion in alternately opposite directions is imparted to the pulley C.

H represents the actuating-lever, having its front end pivoted at *h* to the upper end of an upright bar or rod, I, which latter is pivoted, with its lower end, *j*, to the bed-frame or other support of the apparatus.

The actuating-lever H is connected with the rocking lever F, between the fulcrum and the rear end of the latter, by means of a slide, *k*, arranged in a groove or ways L upon the upper side of the rocking lever.

The slide *k* carries a bifurcated bearing, *m*, to which the actuating-lever H is pivoted by a depending lug, *n*. The slide *k* is held in place within the ways L, after being adjusted therein, by a set-screw, *o*.

As shown in the drawings, the fly-wheel D is provided with a pulley, *p*, which drives a rotary fan, Q, by means of a belt, *r;* but any other suitable machinery may be connected with the rotating parts of the apparatus.

By depressing the rear end of the actuating-lever H a downward motion is imparted to the rear end of the rocking lever F; but the movement of the latter is proportionally larger than that of the actuating-lever, so that a comparatively short stroke of the actuating-lever will cause the rocking lever to make a full stroke. By this means the stroke of the actuating-lever, which may be a hand-lever or treadle, is increased and a greater velocity of the rotat-

ing parts is attained. By shifting the slide *k* toward the fulcrum of the rocking lever the motion of the latter is quickened, and by adjusting the slide in the opposite direction the reverse result is obtained.

I claim as my invention—

1. The combination, with the pulley C, of the rocking lever F, pivoted at or near its middle and having a cord or strap, *g*, attached to its extremities, and the actuating-lever H, pivoted independent of the rocking lever F and connected therewith on one side of the fulcrum of the lever F, substantially as set forth.

2. The combination, with the rocking lever F, provided with ways L, and the actuating-lever H, having lug *n*, of the slide *k*, connecting the levers F and H, and made adjustable in the ways L, substantially as set forth.

3. The combination, with the pulley C, cord *g*, and rocking lever F, of the actuating-lever H, pivoted at its front end to the pivoted bar I, substantially as set forth.

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