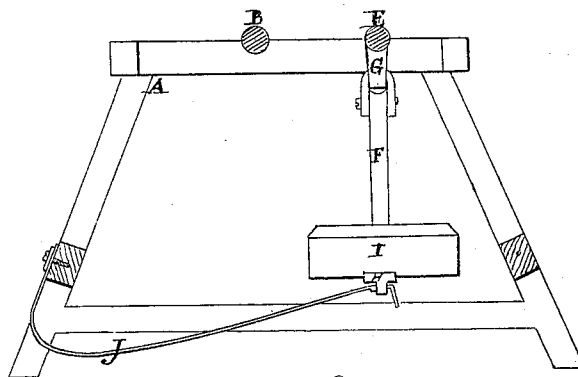
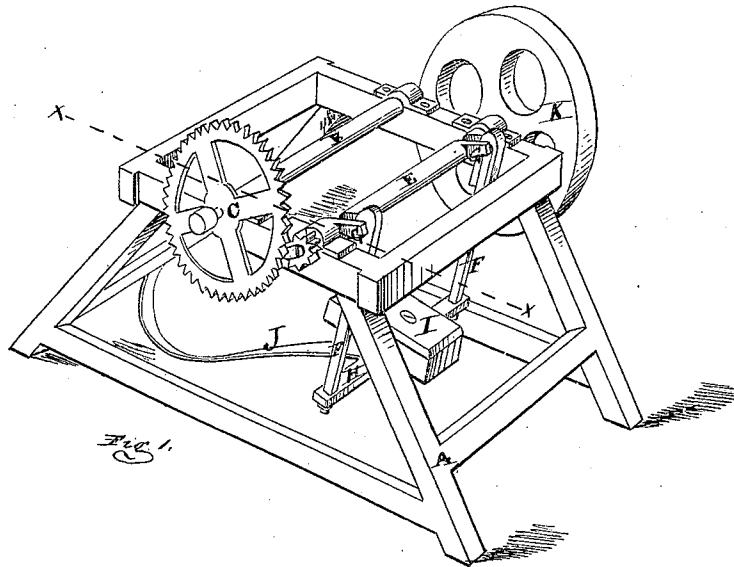


ABRAM SHEAR.

Improvement in Mechanical Movements.

No. 114,870.

Patented May 16, 1871.



ATTEST

Myron H. Church
H. F. Eberts

INVENTOR

A. Shear
per Atty
Thos. D. Sprague

United States Patent Office.

ABRAM SHEAR, OF PLYMOUTH, MICHIGAN.

Letters Patent No. 114,870, dated May 16, 1871.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

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

To whom it may concern:

Be it known that I, ABRAM SHEAR, of Plymouth, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Mechanical Movements; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of my invention.

Figure 2 is a vertical section on the line $x x$ in fig. 1.

Like letters indicate like parts in each figure.

This invention has for its object the construction and operation of a device for equalizing the strain upon cranks when they are employed in operating pitmen which are designed to lift any heavy bodies, thereby avoiding the necessity of constructing very large balance-wheels for the purpose of storing power to compel the cranks to pass their centers and to lift heavy bodies.

The invention consists in the employment of a spring so arranged that in the upward reciprocation of the pitman it will assist in raising the body attached to said pitman.

In the accompanying drawing—

A represents a frame which supports the working parts of the device, and

B is a shaft properly journaled at each end to the frame.

A geared wheel, C, meshes into and engages with the pinion D, secured upon the double crank-shaft E.

Pitmen F are secured to the cranks G by suitable straps, and these pitmen are secured together at their nether extremities by means of a cross-bar, H.

The body to be raised in the reciprocation of the pitmen is represented at I.

A curved spring, J, is secured at one end to the frame, while the opposite end is engaged with the weight I, or with the cross-head or bar H, in such a manner that in the upward movement of the pitman said spring will assist in elevating the weight, thereby requiring a balance-wheel, K, of only sufficient size to store power enough to carry the cranks past the centers.

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

The combination of the spring J, the pitman F, cross-head H, and weight I, when constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

ABRAM SHEAR.

Witnesses:

THOS. S. SPRAGUE,
H. F. EBBETS.