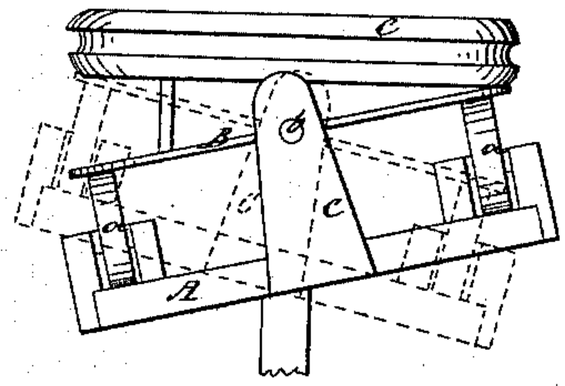
S. F. AMES.

CONVERTING MOTION.

No. 48,502. Patented July 4, 1865.

Fig. 3



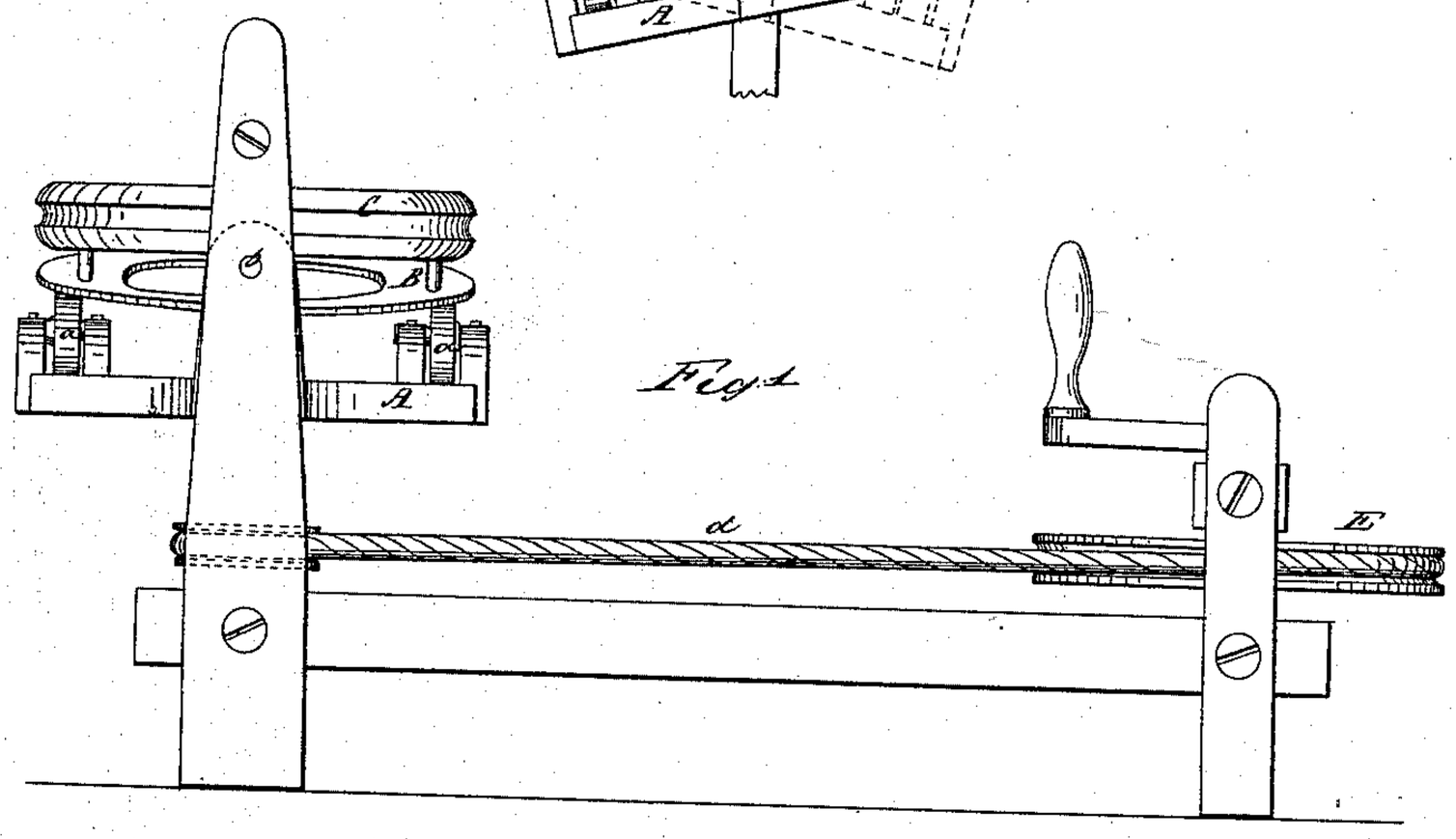
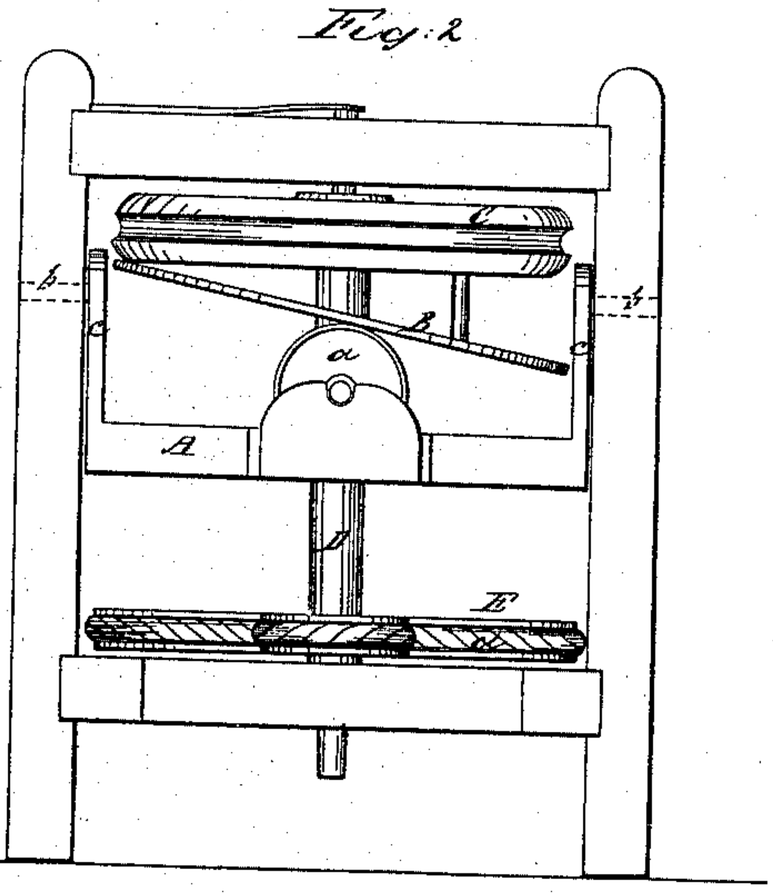


Fig. 1

Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

S. F. AMES, OF STANFORD, KENTUCKY.

IMPROVEMENT IN CONVERTING ROTARY INTO RECIPROCATING MOTION.

Specification forming part of Letters Patent No. **48,502**, dated July 4, 1865.

To all whom it may concern:

Be it known that I, S. F. AMES, of Stanford, Lincoln county, and State of Kentucky, have invented a new and Improved Mechanical Movement for Converting Rotary into Reciprocating Motion; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is a side view. Fig. 2 is an end view, and Fig. 3 is a view representing the motion of the rock-shaft as operated by the inclined-plane wheel.

The object of my invention is to overcome the dead-points in ordinary crank movements, which I have done so completely that my machine is nearly as easily started from any point of the inclined-plane wheel as another, and so perfect and easy is the movement that much friction is avoided and no jerking or noise is produced by its operation.

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

Similar letters indicate like parts of all the figures.

A is the rock-shaft, constructed strongly of metal, with anti-friction roller-supporters constructed at opposite points thereon transverse to the points of suspension, and with suspension-arms C C hung on pivots *b b*, attached to the arms and bearing in supports in the frame, as represented.

B is the inclined-plane wheel, of metal, strong enough to retain its true form and its disk wide enough to make an inclined way for the anti-friction rollers. This inclined-plane wheel is attached to the fly-wheel by supporters sufficient in number, strength, and length to give the wheel its proper inclination and maintain it.

C is the fly-wheel, of ordinary construction.

D is the shaft, made in the ordinary way, to which the fly-wheel and its inclined-plane wheel are attached.

E is an ordinary driving-wheel, which, with its belt *d* passing around a pulley on the shaft, indicates one of the common modes of the application of rotary motion.

a a are anti-friction rollers, operating between the rock-shaft A and the inclined-plane wheel B, turning on pivots resting on each end of the rock-shaft.

The operation of the machine may be thus described: Power being applied to the shaft D, the fly-wheel and its attached inclined-plane wheel are set in motion. Against this inclined-plane wheel the anti-friction roller at each end of the rock-shaft runs, and, as the inclined-plane wheel moves the reciprocating motion is imparted noiselessly, easily, and without dead-points to the rock-shaft, from either end of which it may be communicated by any of the ordinary and well-known forms to the saw of a saw-mill, to a sewing or any other machine.

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

The combination and arrangement of rock-shaft A, the inclined-plane wheel B, the fly-wheel C, shaft D, and anti-friction rollers *a a*, constructed, arranged, and operating as and for the purpose herein described and set forth.

S. F. AMES.

Witnesses:

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