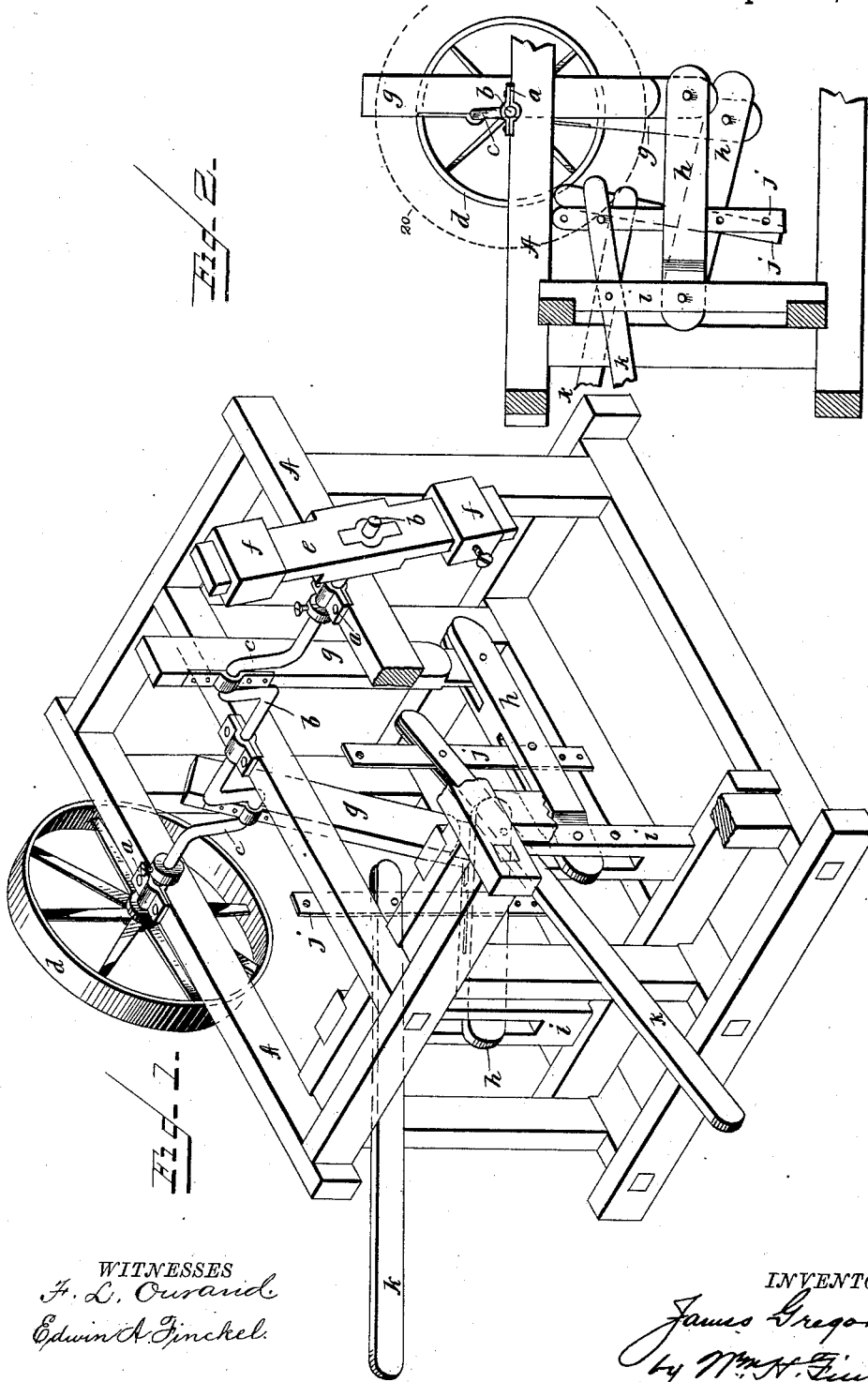


(No Model.)

J. GREGORY.  
MOTOR.

No. 361,937.

Patented Apr. 26, 1887.



WITNESSES  
*F. L. Ourand*  
*Edwin A. Finckel.*

INVENTOR:  
*James Gregory*  
*by M. A. Finckel*  
*his Attorney.*

# UNITED STATES PATENT OFFICE.

JAMES GREGORY, OF BOGANSVILLE, ASSIGNOR TO CARLOS L. ALLEN, SPENCER M. RICE, JR., AND LAMARTINE P. MURPHY, ALL OF UNION TOWNSHIP, SOUTH CAROLINA.

## MOTOR.

SPECIFICATION forming part of Letters Patent No. 361,937, dated April 26, 1887.

Application filed June 10, 1886. Serial No. 204,701. (No model.)

### *To all whom it may concern:*

Be it known that I, JAMES GREGORY, a citizen of the United States, residing at Bogansville, in the county of Union and State of South Carolina, have invented certain new and useful Improvements in Mechanical Motors, of which the following is a full, clear, and exact description.

This invention is in the nature of a mechanical motor or "power," so called, for driving machinery of various kinds; and the invention consists of a shaft carrying and operated by means of a revoluble medium, which latter is actuated through the shaft by levers, as I will now proceed to more particularly set forth and claim.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of one form of my invention, and Fig. 2 is a plan view of the same.

Upon a suitable frame-work, A, in proper boxes, *a*, secured thereon, is mounted a horizontal revoluble crank-shaft, *b*. In this instance the shaft has two cranks, *c*, of opposite projection from the shaft. One end of this shaft is provided with a band-pulley, *d*, for transmitting the power to the machinery to be driven. Instead of transmitting the power of the motor by pulley and belt, gear-wheels or a crank may be employed. The other end of this shaft is provided with a fly-wheel (indicated by the broken circle 20, Fig. 2) or its equivalent, and as an equivalent, and having superior utility by reason of its inertia, I employ a beam, *e*, fixed to the shaft and balanced on said shaft by counter-weights *f*, which are adjustable on said beam, so as to vary the leverage of said beam and consequently control the power proportionately with the desired or requisite expenditure. Thus the longer the leverage the greater the power or impetus, and hence, if the machinery to be driven be light, the leverage will be decreased by moving the counter-weights nearer the center or toward the shaft, and vice versa. This beam, being balanced, will stand either vertical or horizontal when the motor is at rest;

but I have purposely shown it in a false position in Fig. 1, so as to more plainly illustrate the construction of parts.

Pitman-rods *g* depend from the cranks *c* of shaft *b*, and are connected to levers *h*, which are pivoted at *i*, in the same horizontal plane, to the frame-work A. These levers *h* are connected by vertical adjustable links *j* with hand-levers *k*, which last-named levers are also pivoted in the same horizontal plane to the frame-work, and also in the same vertical plane with the levers *h*, so that said levers *h* and *k* are parallel; but the parallelism of the levers *h* and levers *k* may be departed from and the location of the pivots of the levers *h* changed so as to vary the center of motion, and hence their throw; and so, also, the links may have an adjustable connection with the levers *h* to effect the same end with respect to the levers *k*. The levers *k* are levers of the third order, and by giving them an up-and-down motion or vertical vibration on their fulcral pivots the motion is transmitted through the links and levers *h* to the pitman-rods and by them to the crank-shaft, to which a rotary motion is imparted, and as soon as the equilibrium of the beam is disturbed and it is once set in motion it assists in the vibration of the levers, overcomes the weight of the parts, and thereafter becomes the controlling element in the power.

A motor of this simple construction will be found very efficient in rural districts where horse-powers, steam-engines, and other powers are inaccessible or not available.

What I claim is—

1. A mechanical motor comprising the following elements, namely: a frame, A, the crank-shaft *b*, mounted thereon, the balanced beam *e*, secured to said shaft, pitmen *g*, engaging the cranks in said shaft and connected to levers *h*, which have their pivots on the frame, hand-levers *k*, and links *j*, connecting the said hand-levers and the levers *h*, all combined and arranged substantially as shown and described.

2. A mechanical motor consisting of the frame A, a crank-shaft, *b*, mounted thereupon, a balancing device secured to said shaft, pit-

men *g*, depending from the cranks of said shaft, levers *h*, pivoted at one end to the frame and connected at their other ends with the said pitmen, hand-levers *k*, and links *j*, connecting said hand-levers with the levers *h* between the ends of the latter, all constructed, combined, and arranged substantially as described.

In testimony whereof I have hereunto set my hand this 4th day of May, A. D. 1886.

JAMES GREGORY.

Witnesses:

D. A. TOWNSEND,  
I. G. LONG.

It is hereby certified that in Letters Patent No. 361,937, granted April 26, 1887, upon the application of James Gregory, of Bogansville, South Carolina, for an improvement in "Motors," errors appear in the printed specification requiring the following corrections, to wit: In the description of the figures of the drawing, page 1, line 19, the words "side elevation" should read *perspective view*, and in lines 20-1 the words "plan view" should read *sectional side elevation*; and that said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 3d day of May, A. D. 1887.

[SEAL.]

D. L. HAWKINS,

*Acting Secretary of the Interior.*

Countersigned:

BENTON J. HALL,

*Commissioner of Patents.*