

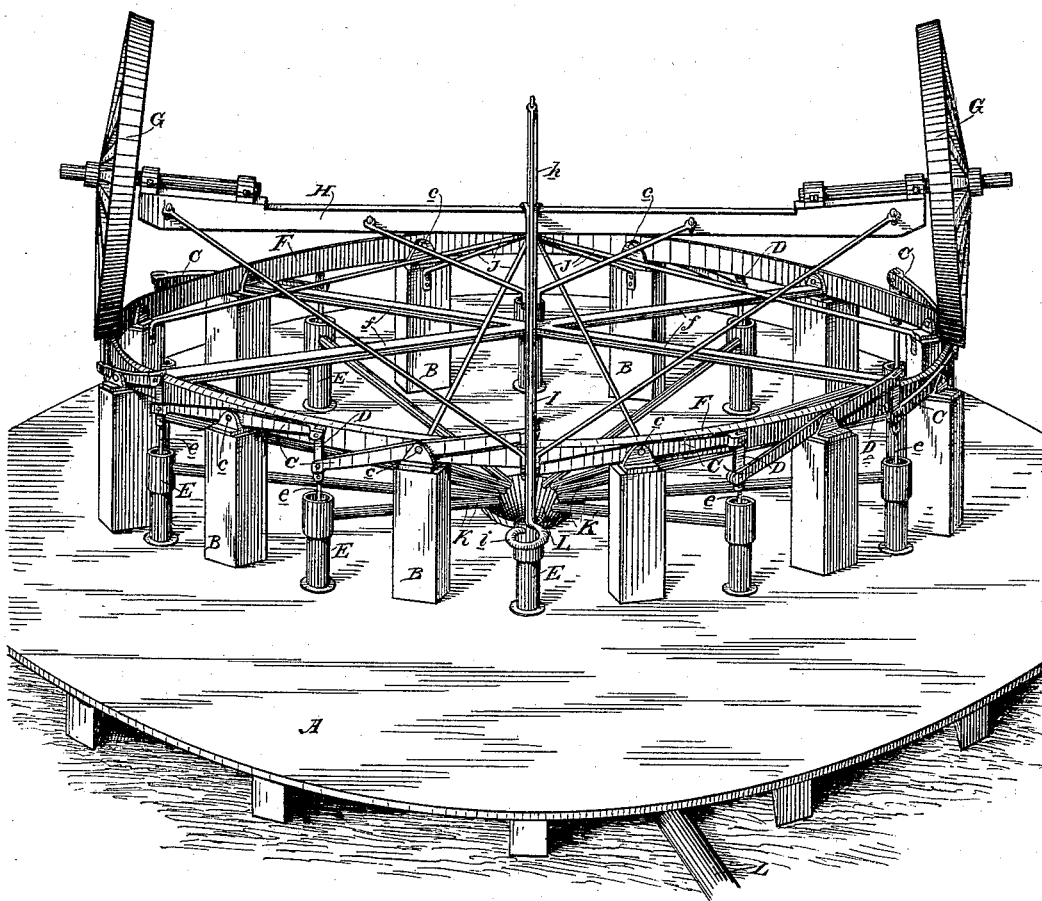
(No Model.)

W. A. HOWARD.

POWER MECHANISM.

No. 383,295.

Patented May 22, 1888.



Witnesses,
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UNITED STATES PATENT OFFICE.

WILLIAM A. HOWARD, OF PETALUMA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO CHARLES W. ADAMSON, OF SAME PLACE.

POWER MECHANISM.

SPECIFICATION forming part of Letters Patent No. 383,295, dated May 22, 1888.

Application filed December 30, 1887. Serial No. 259,435. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. HOWARD, of Petaluma, Sonoma county, State of California, have invented an Improvement in Power Mechanisms; and I hereby declare the following to be a full, clear, and exact description of my invention.

My invention relates to the class of mechanisms for applying power to operate pumps and other machines.

My invention consists in an annular series of connected pivoted levers, each having a connection with the machine or machines to be driven, and in a rolling wheel or wheels traveling over said levers, whereby they are all simultaneously oscillated, adjacent ones in opposite directions.

My invention further consists, in connection with said levers and the rolling power wheel or wheels, of a fixed circular track concentric with the series of levers, and upon which said wheel or wheels travel as they run down successive levers, and in details of construction, all of which I shall hereinafter fully describe.

The object of my invention is to provide a simple and effective power device or mechanism for operating pumps and other machines.

Referring to the accompanying drawing, the figure is a perspective view of my power mechanism.

A is a bed-platform, of any suitable character, and from which rise at intervals and in annular series the standards B, which have bearings *c* on their tops, in which the levers C are pivoted, said levers being arranged in annular series. The levers are all connected by the links D, so that adjacent ones throughout the whole series oscillate in reverse directions.

E are pumps, which here stand for any machines to which the power device may be applied. These are located between the standards, and their suction-pipes may be supposed to extend downwardly to the source of water. The pitmen *e* of these pumps are each connected with one end of the levers C above.

F is a fixed annular track concentric and within the annular series of levers and supported upon the standards B, being further stiffened by diametrical braces *f*.

G are oppositely-located wheels, which travel on the track F, their rims being wide enough to extend over into the plane of the annular series of levers C. These wheels, on account of having to travel in a circle, have their rims beveled inwardly at a slight angle, and the track F is correspondingly beveled in order to prevent grinding. The wheels are journaled upon the ends of an axle, H, which is pivoted centrally to a pin or bolt, *h*, passing down through the braces *f* of the track and into the platform. A pole, I, is connected with and properly braced to the axle, and has a clevis, *i*, on its end, to which the horse is to be hitched.

J are inclined braces, which rise from the track F to the center and steady the pivot-pin *h*.

K are the discharge-pipes of the pumps, and L is the common chute with which said pipes communicate.

It will be seen that on account of the bevel of the rims of the wheels and track the said wheels are mounted at a slight angle, so that the outer portion of their rim will run true on the levers C. It is obvious, however, that I may make the rims of said wheels and the track F without a bevel, and may also mount the wheels perpendicularly, if I prefer, as the same result is effected, though with a tendency to grind on the track.

The operation of the mechanism is as follows: As the pole I is carried around through a circular path the wheels roll around on the annular track and successively run down the connected levers C, thus effecting an oscillating movement in them all, adjacent ones moving in opposite directions—that is to say, half of them move their pump pitmen down, while the other half at the same time are moving their pitmen up.

It is obvious that I may use a single wheel, if preferred; but I deem it better to use two wheels, as they serve to more perfectly preserve the balance of the machine and also to augment the power.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A power mechanism comprising a connected series of pivoted levers, a fixed track

alongside of said levers, and oppositely-located wheels adapted to travel on the track and having their rims projecting over into the plane of and to contact with said levers, whereby they are oscillated, substantially as described.

2. A power mechanism comprising connected levers arranged in annular or endless series, an annular fixed track concentric with said lever series, and oppositely-located wheels adapted to travel upon the track and in contact with the levers, whereby adjacent ones throughout the series are oscillated simultaneously in opposite directions, substantially as described.

3. In a power mechanism, the annular series of connected pivoted levers to be connected with the machine or machines to be driven, and the fixed track concentric to and within the series of levers, in combination with the wheels mounted on the track to move in contact with the levers, whereby they are oscillated as described, the axle connecting the wheels, and the pole extending from the axle, substantially as described.

4. In a power mechanism, the annular series of standards, the levers pivoted to said standards, and the links connecting the levers in an endless series, in combination with the an-

annular fixed track supported on the standards within the lever series and the beveled wheels adapted to roll on the track and levers, whereby the latter are oscillated, substantially as described.

5. In a power mechanism, the annular series of standards, the levers pivoted thereto, and the links connecting the levers in an endless series, in combination with the fixed annular track on the standards, the diametrical braces, and the inclined braces for said track, the fixed center pin, the axle pivoted on said pin, and the wheels on the axle adapted to roll on the track and levers, whereby the latter are oscillated, substantially as described.

6. In a power mechanism, the annular series of pivoted connected levers and the concentric beveled top fixed track, in combination with the axle, and the wheels mounted at an angle and having beveled rims adapted to roll on the track and levers, whereby the latter are oscillated, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM A. HOWARD.

Witnesses:

S. H. NOURSE,
H. C. LEE.