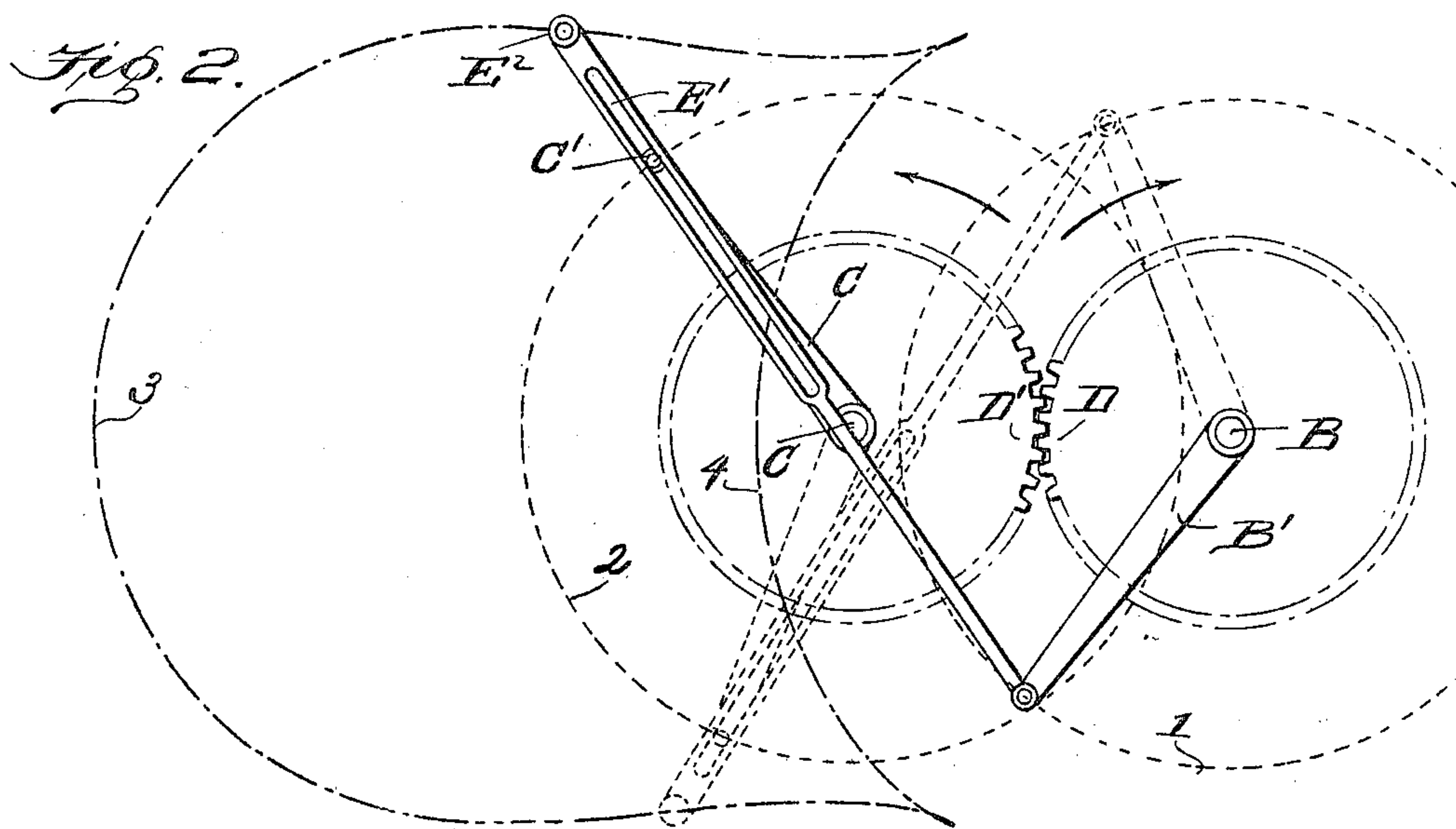
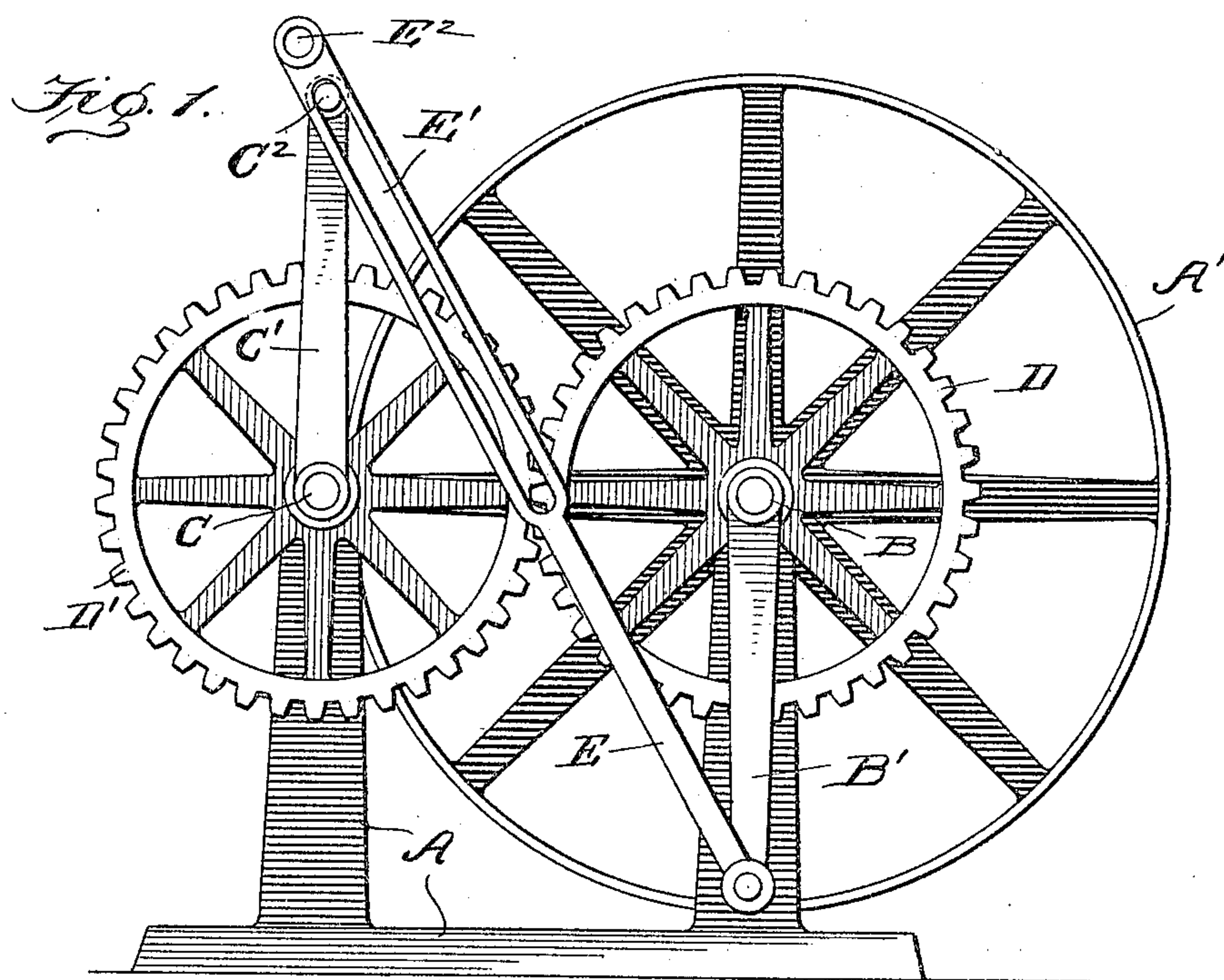


No. 822,629.

PATENTED JUNE 5, 1906.

C. PHILLIPS.
POWER TRANSMISSION.
APPLICATION FILED SEPT. 22, 1904.



Witnesses

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UNITED STATES PATENT OFFICE.

CHESTER PHILLIPS, OF ROCHESTER, NEW YORK.

POWER TRANSMISSION.

No. 822,629.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed September 22, 1904. Serial No. 225,488.

To all whom it may concern:

Be it known that I, CHESTER PHILLIPS, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Power Transmission, of which the following is a specification.

The object of this invention is to transmit to a crank-arm describing a circle a greater amount of power with the expenditure of less energy than is possible when the power is applied directly to the outer end of the crank-shaft. This object is gained by increasing the length of the downstroke and gaining a leverage on the crank-shaft during such stroke and in shortening the upstroke. In turning an ordinary crank-handle—as, for example, in using a grindstone—the lifting movement of the arm is equal to the downward movement; but it is only on the downward movement that the power can be applied to advantage and without great exertion, more or less power being lost on the up-lift of the arm.

My invention consists of a slotted lever, a crank-handle having its outer end adapted to work in the slot of the lever, and a movable pivotal point for the pivoted end of the lever.

My invention also consists in the novel features of construction and combination of parts, hereinafter described, particularly pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation showing the application of my device. Fig. 2 is a diagrammatic view showing the orbits of the movable parts.

In the drawings, A represents a suitable base and frame in which are journaled parallel shafts B and C, the shaft B carrying a fly-wheel A'. These shafts carry, respectively, the crank-arms B' and C' and also intermeshing spur-gears D and D'. A long lever E is pivoted at one end to the outer free end of the crank-arm B'. Through a portion of its length the lever E is longitudinally slotted, as shown at E', and the cranked portion C' of the crank-arm C' works in this slotted portion E'. Adjacent its free end the lever E is provided with a suitable handle E².

In Fig. 2, 1 represents the arc described

by the crank-arm B', and 2 the arc of the crank-arm C'. The path of the outer end of the lever E where the power is applied at the handle E² is indicated by the curves 3 and 4, the curve 3 being the orbit of the power end of the lever on the downstroke and the curve 4 the path through which the outer end of the lever E moves on the upstroke, and it will be noted that the curve 2 is much longer than the curve 4, and it will be further noted that the extreme portion of the curve 3 is at a greater distance outside of the circle 2 than any portion of the curve 4 is within the circle 2 and that the purchase gained by the lever when describing the path 3 is greater than any loss during the short upward movement on the path 4.

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

1. A device of the kind described comprising parallel shafts, intermeshing gear-wheels carried by the shafts, crank-arms carried by the shafts, and a slotted lever pivoted to one of the crank-arms and having its slotted portion in engagement with the other crank-arm.

2. In a power-transmission device, intermeshing gears, parallel shafts upon which said gears are mounted, oppositely-arranged crank-arms connected to said shafts, a longitudinally-slotted lever pivotally connected at one end to the free end of one of said crank-arms, the crank portion of the other crank-arm working freely in the slot of the lever.

3. In a device of the kind described, parallel shafts, oppositely-arranged crank-arms carried by the shafts, intermeshing gear-wheels carried by the shaft, a lever having one end pivotally connected to one of said crank-arms, said end describing a circular path, the said lever being longitudinally slotted adjacent its opposite end, the other crank-arm having its crank portion in engagement with said slot, and the free end of the lever describing a path upon an irregular line and of greater length than the path described by the pivot end of the lever.

CHESTER PHILLIPS.

Witnesses:

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