

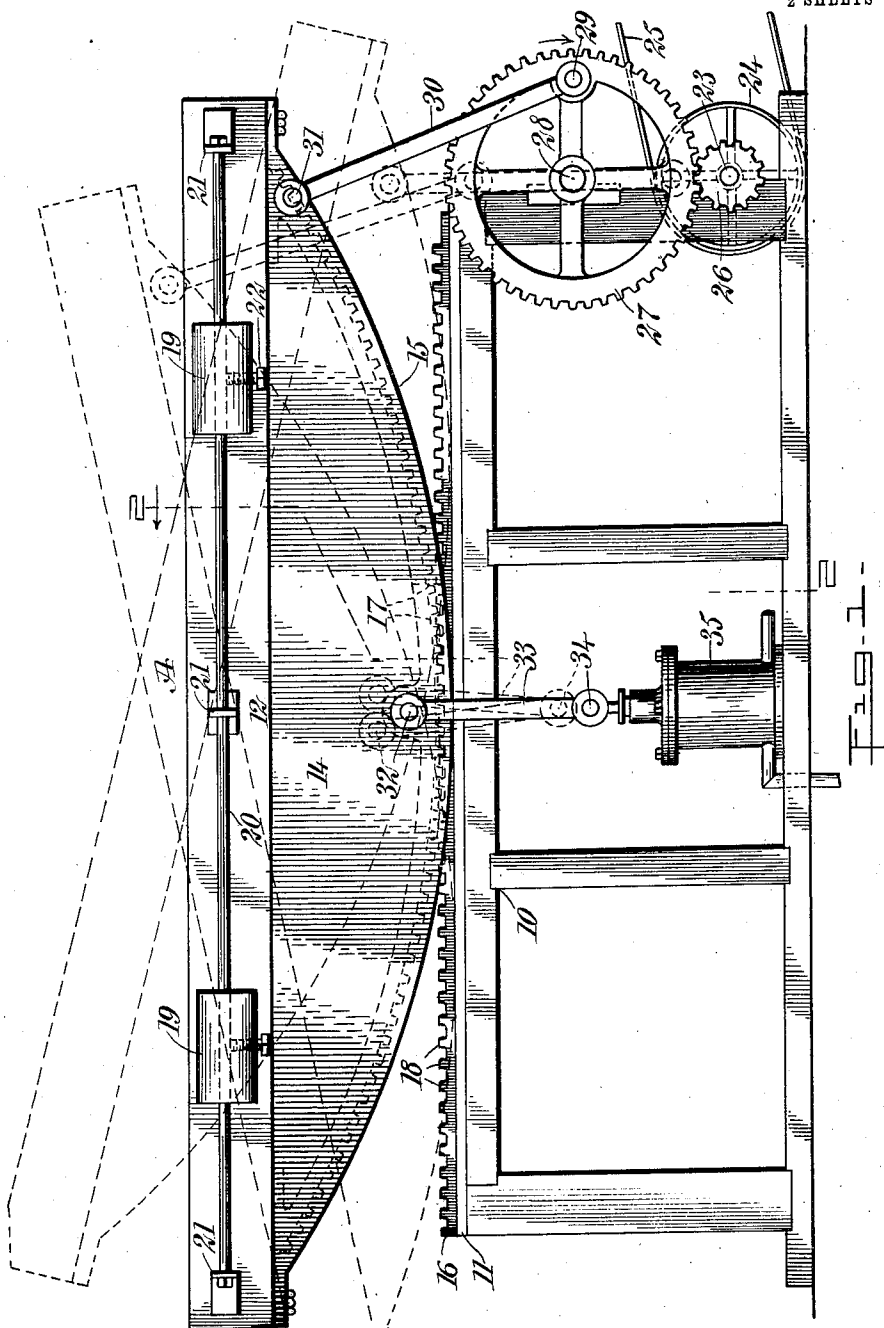
No. 836,601.

PATENTED NOV. 20, 1906.

J. L. NELSON.
POWER TRANSMITTING MECHANISM.

APPLICATION FILED MAR. 8, 1905.

2 SHEETS—SHEET 1.



WITNESSES:
C. A. J. J. J.

S. H. C. J.

INVENTOR

John L. Nelson

BY

M. J. J.

ATTORNEYS

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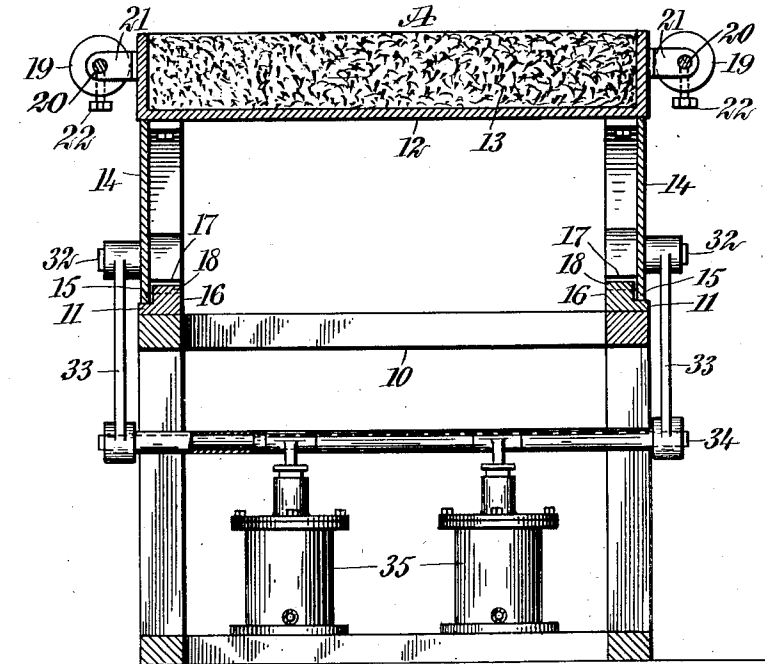


Fig. 2.

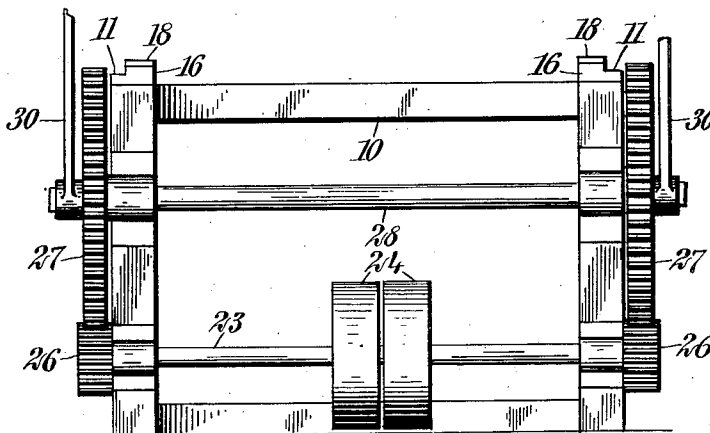


Fig. 3.

WITNESSES:
C. A. Jarvis.

S. H. Cobb.

INVENTOR
John L. Nelson

BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN L. NELSON, OF COLONA, COLORADO.

POWER-TRANSMITTING MECHANISM.

No. 836,601.

Specification of Letters Patent.

Patented Nov. 20, 1906.

Application filed March 8, 1905. Serial No. 248,960.

To all whom it may concern:

Be it known that I, JOHN L. NELSON, a citizen of the United States, and a resident of Colona, in the county of Ouray and State of Colorado, have invented a new and Improved Power-Transmitting Mechanism, of which the following is a full, clear, and exact description.

My invention relates to mechanisms for transmitting power, its principal object being to provide means for overcoming dead-centers.

It consists in the various features and combinations hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 shows one embodiment of my invention in side elevation. Fig. 2 is a vertical transverse section therethrough on the line 2 2 of Fig. 1, and Fig. 3 is an end elevation of the supporting-frame and power-applying mechanism.

10 designates a frame furnishing a support for the moving elements of the mechanism, which has at each side a rail 11 for carrying a weight A. This weight may consist of a box 12, filled with any stable material 13, such as stone set in cement, lead, or the like. The weight is mounted to rock upon the rails by depending side pieces 14 14, having curved contact-faces 15. To prevent lateral movement of the weight upon the support, the latter may have upwardly-projecting cheeks 16, and longitudinal displacement is avoided by teeth 17, formed upon the inside of the side pieces and engaging rack-teeth 18 upon the upper faces of the rail-cheeks. The rocking weight may be poised to secure a normally horizontal position by balance-weights 19, carried by rods 20, extending longitudinally of the box and being fixed thereon by brackets 21. Each weight is shown as having a set-screw 22, by which it may be fixed in its adjusted position upon the rod.

At one end of the frame is journaled a shaft 23, upon which are shown fast and loose pulleys 24, connected by a belt 25 with the motor, the dead-centers of which are to be overcome. Upon each end of this shaft is fixed a pinion 26, meshing with a gear 27 upon the adjacent end of a transverse shaft 28, rotatable in the frame. From each of these gears projects a crank-pin 29, which is joined by a connecting-rod 30 to a pivot-pin 31, extend-

ing from the side of the weight A near one extremity. Near the center of the rocking weight, at each side, they preferably lying in verticals from the points of contact between the curved faces and the support, are pivot-pins 32, from which depend links 33 33, connected by a yoke-shaft 34. To this yoke-shaft is joined the power-receiving mechanism, which in the present instance is shown as consisting of a plurality of pumps 35.

The connection between the prime motor and the transmitting mechanism is such that when the former is exerting its maximum effect the crank-pins of the gears 27 will be moving, for example, downwardly from the position shown in full lines in Fig. 1 of the drawings to positions removed ninety degrees therefrom, the weight assuming the lower position, as indicated in dotted lines at the right of Fig. 1. Then as the motor passes one of its dead-centers the crank-pins are traveling through the succeeding ninety degrees, during which the unbalanced weight restores itself to its horizontal position, supplying force to carry the motor over the center. A similar effect is secured during the remaining half of the revolution of the crank-pins, the weight A being raised by the connecting-rod during the first quarter and then exerting its force during the last quarter to carry the motor by the center. The power thus transmitted to and developed by the weight is taken off the pivot-pins 32, thus securing the maximum leverage of the weight and making two strokes for each stroke of the connecting-rod 30.

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

1. A power-transmitting mechanism comprising a support, a weight having a curved contact-surface to rock upon the support, means for applying power to the weight near one end, and power-receiving apparatus connected with the weight in a plane through the vertical center thereof.

2. A power-transmitting mechanism comprising a support, a weight having a curved contact-surface to rock upon the support, means for applying power to the weight near one end, pins projecting from the sides of the weight in a plane through the vertical center thereof, links depending from the pins, a shaft connecting the links, and power-receiving mechanism joined to the shaft.

3. A power-transmitting mechanism com-

prising a support, a weight having a curved contact-surface to rock upon the support, said support and weight being provided with intermeshing teeth, means for applying
5 power to the weight near one end, and power-receiving apparatus connected with the sides of the weight in a plane through the vertical center thereof.

4. A power-transmitting mechanism com-
10 prising a support, a weight having a curved contact-surface to rock upon the support, a rod extending longitudinally of the rocking

weight, a balance-weight movable upon the rod, means for applying power to the weight near one end, and power-receiving apparatus 15 connected with the weight in a plane through the vertical center thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN L. NELSON.

Witnesses:

JAMES BULLINGTON,
EDGAR A. HOTCHKISS.