

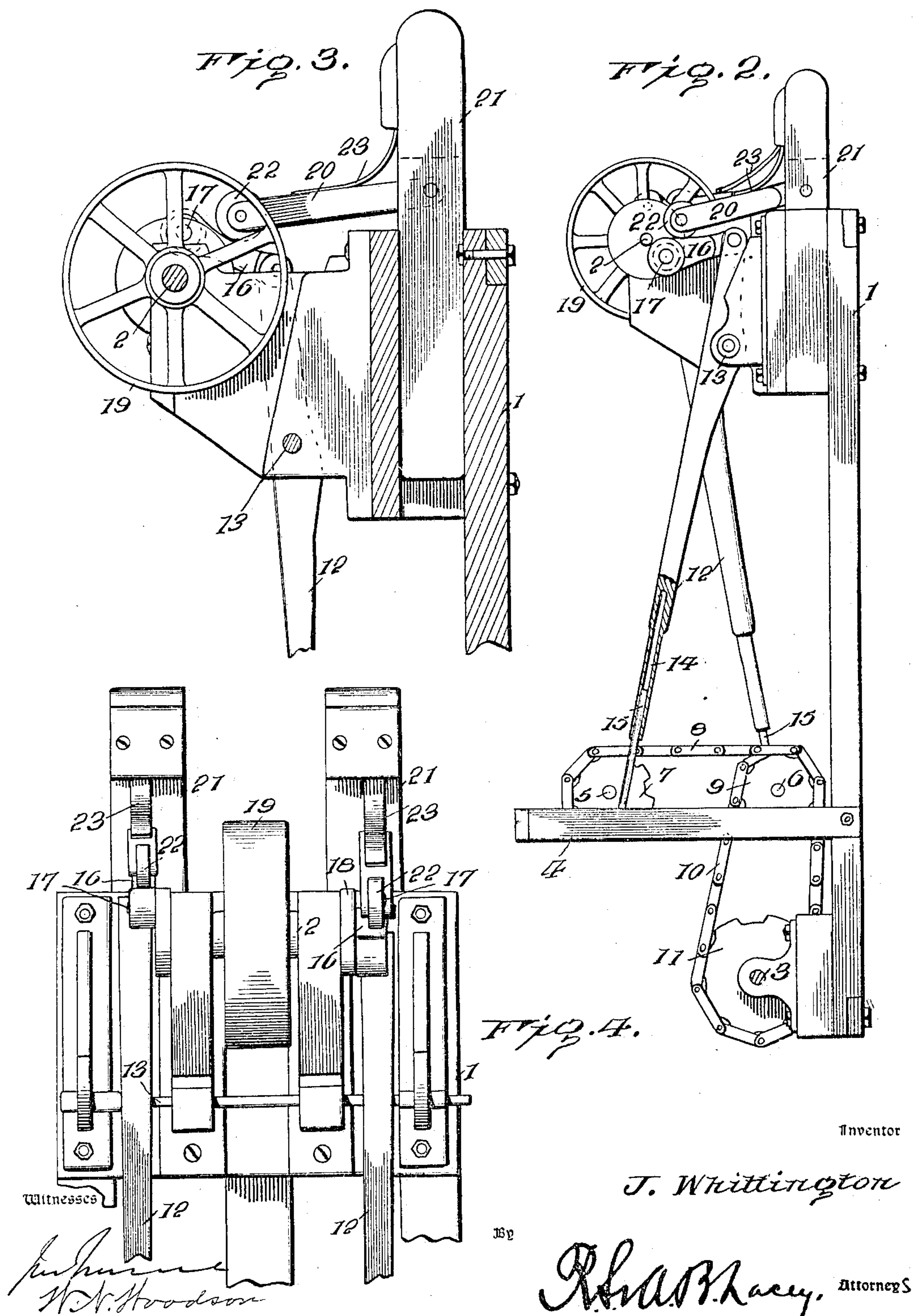
No. 801,493.

PATENTED OCT. 10, 1905.

J. WHITTINGTON.
MEANS FOR OVERCOMING DEAD CENTERS.

APPLICATION FILED JULY 30, 1904.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JAMES WHITTINGTON, OF BAKER CITY, OREGON, ASSIGNOR OF THREE-FOURTHS TO HYRUM H. SALISBURY, JAMES ZENAR, AND W. A. HIRSCH, OF BAKER CITY, OREGON.

MEANS FOR OVERCOMING DEAD-CENTERS.

No. 801,493.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed July 30, 1904. Serial No. 218,921.

To all whom it may concern:

Be it known that I, JAMES WHITTINGTON, a citizen of the United States, residing at Baker City, in the county of Baker and State of Oregon, have invented certain new and useful Improvements in Means for Overcoming Dead-Centers, of which the following is a specification.

This invention relates to power-translating mechanism, and has for its object to devise novel means for overcoming dead-centers without materially detracting from the power expended to drive the part or mechanism to be operated.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a power-translating mechanism embodying the invention. Fig. 2 is a side view thereof, a portion of one of the levers being broken away. Fig. 3 is a sectional view of the driven shaft and the proximal end portion of the frame, on a larger scale, showing in elevation the parts intimately associated therewith. Fig. 4 is a front view of the end portion of the mechanism illustrated in Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The exact mounting of the mechanism to which the invention is applied and which includes the several shafts is immaterial in the contemplation of the invention. However, specifically describing the construction illustrated, the driven shaft 2 is preferably mounted in suitable bearings at one end of a frame 1, the motor or engine shaft 3 being mounted in bearings at the opposite end of said frame. A support 4 projects from the end portion of the frame carrying the motor-shaft 3, and two shafts 5 and 6 are mounted thereon.

Sprocket-wheels 7 are fast upon the shafts 5 and 6 and are connected by chain belts 8. A sprocket-wheel 9, secured to the shaft 6, is connected by sprocket-chain 10 to a corresponding sprocket-wheel 11 on the shaft 3, which is adapted to be drawn by any suitable power.

Levers 12 are utilized to transmit motion from the belts 8 to the driven shaft 2 and are fulcrumed near one end upon a shaft 13, mounted in suitable bearings carried by the end portion of the frame 1, supporting the shaft 2. The levers 12 have telescoping end sections 15, which are connected with the chain belts 8 and operate in openings 14 at the ends of the levers adjacent to said chain belts. The ends of the levers 12 opposite those provided with the telescoping sections 14 have a pitman connection with the driven shaft 2, pitmen 16 being used to connect said levers with wrist-pins 17 of wheels 18, fast upon the end portions of the shaft 2. In order that power may be taken from the driven shaft 2, a pulley 19 is secured thereto.

In order to admit of a free and uninterrupted rotation of the shaft 2 and prevent the wrist-pins 17 from hanging on a dead-center, yielding pressure devices are provided for positive engagement and coöperation with the pitmen 16. These yielding devices comprise standards 20, pivoted to arms 21, extended from the frame 1, said standards being provided with rollers or idlers 22, normally held in contact with the said pitmen 16. Springs 23 bear against the standards 20 to hold them in engagement with the pitmen. It will be understood that the springs 23 may be of any suitable type, those illustrated being of flat form.

When the chain belts 8 are actuated by power transmitted to the motor-shaft 3, rectilinear movement is imparted to the adjacent ends of the telescoping sections 14 of the levers 12 and impart an oscillatory movement to said levers which is converted into a rotary motion by means of the pitmen 16 and their crank connection with the shaft 2. As the wrist-pins 17 approach the dead-points the springs 23 are subjected to an increased tension, which is utilized to carry the said wrist-pins past the dead-centers, the power expended to compress the springs being again utilized to operate the levers in the

transmission of power from the power-driven shaft 3 to the driven shaft 2.

Having thus described the invention, what is claimed as new is—

- 5 In a device of the class described, the combination of a supporting-frame, levers mounted upon the said frame, means for imparting an alternate oscillatory movement to the said levers, a driven shaft, pitmen connect-
10 ing corresponding ends of the levers with the driven shaft for actuation thereof, standards pivoted to the frame, rollers carried by said

standards and in direct engagement with the said pitmen, and springs mounted upon the frame and bearing against the pivoted stand- 15
ards to hold their rollers in contact with the pitmen for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES WHITTINGTON. [L. S.]

Witnesses:

F. H. ATKINSON,

J. E. HYDE.