C. E. REDDIG.

PULLEY.

APPLICATION FILED JAN. 20, 1920.

1,416,063. Patented May 16, 1922.

Fig. 1.

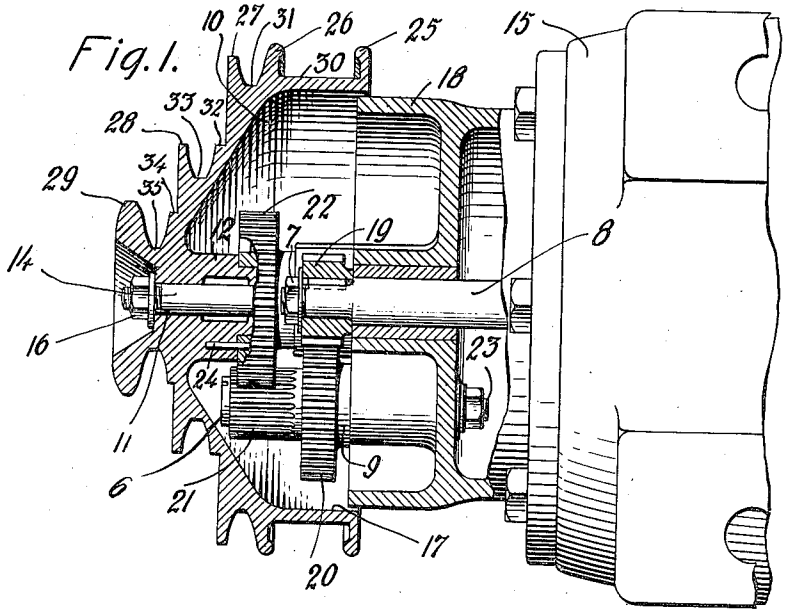
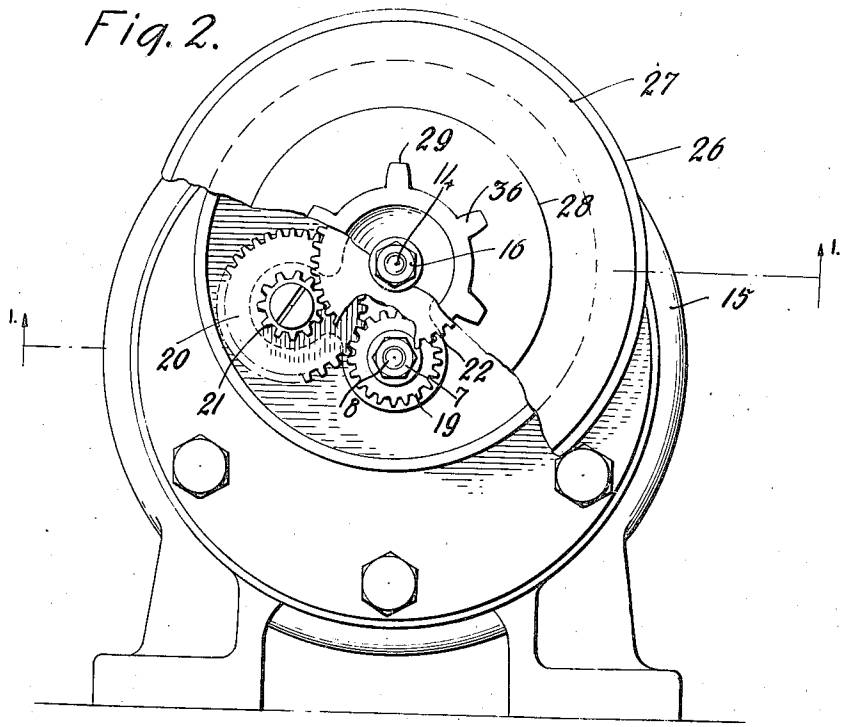


Fig. 2.



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Att'y.

UNITED STATES PATENT OFFICE.

CHARLES E. REDDIG, OF LONG ISLAND, NEW YORK, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PULLEY.

1,416,063. Specification of Letters Patent. **Patented May 16, 1922.**

Application filed January 20, 1920. Serial No. 352,688.

To all whom it may concern:

Be it known that I, CHARLES E. REDDIG, a citizen of the United States, residing at Long Island, in the county of Queens, State of New York, have invented certain new and useful Improvements in Pulleys, of which the following is a full, clear, concise, and exact description.

This invention relates to improvements in pulleys, the primary object being to so construct a device of this character that it will serve as a casing for the driving elements by which it is actuated and be provided on its exterior surface with variated grooves and sprocket teeth, providing a means whereby it may operate a plurality of driving elements of different sizes and characters.

The pulley herein is especially adapted for application to an electric motor by which it is driven through reducing gearing contained within the body portion of the pulley, the variated grooves and teeth formed on its outer surface permitting the motor to be somewhat "universal" in its application for actuating various machines and implements requiring different driving elements.

In the accompanying drawings—

Figure 1 is a vertical cross sectional view of the pulley showing the driving gears therefor and their cooperation with the armature shaft of the electric motor.

Figure 2 is an end elevation of the improved pulley showing it attached to an electric motor.

Referring now to the drawings in detail in which like reference numerals designate similar parts throughout the several views, 10 represents the body portion of the pulley which is formed substantially cup shaped, provided with an opening 11 formed in an inwardly extending boss 12 which is rotatively mounted upon a horizontally disposed stud 14 secured to the casing 18 of the motor 15. The outer end of the stud 14 carries a nut 16 which holds the pulley 10 in place. The rim 17 of the cup shaped pulley 10 is of a diameter slightly greater than the casing 18 of the motor and slightly overlaps the same, forming a closed joint between the motor casing and the pulley. The hollow portion of the cup shaped pulley 10 is of a size to receive and enclose a train of reducing gears 19, 20, 21 and 22, which provide the driving couple between the armature shaft 14 and the pulley 10. The gear 19, which is fast upon the armature shaft 8 of the motor 15 and is held against lateral movement by a nut 7, meshes with the gear 20 fast upon a sleeve 9 rotatively mounted upon a stud shaft 23 secured to casing 18 of the motor. The sleeve 9 has the pinion 21 formed on its outer end, held against lateral movement by a screw 6, which meshes with the gear 22 secured to the boss 12 of the pulley 10 by means of a pin 24. Due to the gear train just described the pulley is driven at a reduced speed by the armature shaft of the motor.

The outer face of the pulley 10 is provided with annular rims 25 and 26 which are of the same diameter, and rims 27, 28 and 29 of different diameters. Between the rims 25 and 26 a flat groove 30 is formed which is adapted to receive and drive a flat driving bolt. Between the rims 26 and 27 a substantially triangular shaped groove 31 is formed which is adapted to receive a round or triangular shaped driving belt. The rim 27 is provided with a short annular flange 32 between which and the rim 28 a substantially triangular shaped groove 33 is formed of considerably less diameter than the groove 31, which is also adapted to receive a driving belt of round or triangular cross-section. The rim 28 is provided with a short annular flange 34 between which and the rim 29 a substantially triangular shaped groove 35 is formed, which is also adapted to receive a driving belt of round or triangular cross-section, the groove being of a diameter considerably less than the diameter of the groove 33. The rim 29 is cut to form sprocket teeth 36 which are adapted to receive and drive a chain.

From the foregoing it will be observed that the pulley, being necessarily large enough to provide a casing for the driving gears by which it is actuated, presents an exterior surface of sufficient extent to carry a plurality of rims between which are formed grooves to receive and actuate driving elements of different sizes and characters, the rim of smallest diameter serving both to cooperate in driving a belt and being provided with sprocket teeth serving also as a sprocket wheel for actuating a chain.

What is claimed is:

1. A pulley comprising a body portion

and a plurality of annular rims carried thereby, one of said rims shaped to form sprocket teeth.

2. A pulley comprising a body portion and a plurality of annular rims of different diameters carried thereby, the rim of smallest diameter being shaped to form sprocket teeth.

3. A pulley comprising a body portion, and two annular rims carried thereby forming between them a groove to receive a driving belt, one of said rims shaped to form sprocket teeth for driving a chain.

4. A pulley comprising a body portion having a bearing sleeve and a plurality of annular rims carried by said body portion, one of said rims projecting outwardly beyond one end of the bearing sleeve and shaped to form sprocket teeth.

5. A pulley comprising a cup shaped body portion having a bearing sleeve, and a plurality of annular rims of different diameters carried thereby forming between them grooves to receive driving belts, the rim of smallest diameter projecting outwardly beyond one end of the bearing sleeve and shaped to form sprocket teeth for driving a chain.

6. A power-transmitting mechanism having a stationary body portion, a cup-shaped rotating member fitted over said stationary portion, annular rims of varying diameter on the surface of said rotating member, one of said rims shaped to form sprocket teeth for driving a chain, and means within said rotating member for actuating the same.

7. A pulley comprising a cup-shaped body portion having a bearing sleeve, and a plurality of annular rims of different diameters carried thereby forming between them grooves to receive driving belts, the rim of smallest diameter projecting outwardly beyond one end of the bearing sleeve and shaped to form sprocket teeth for driving a chain, and means within said body portion for actuating it.

In witness whereof, I hereunto subscribe my name this 16th day of January, A. D., 1920.

CHARLES E. REDDIG.