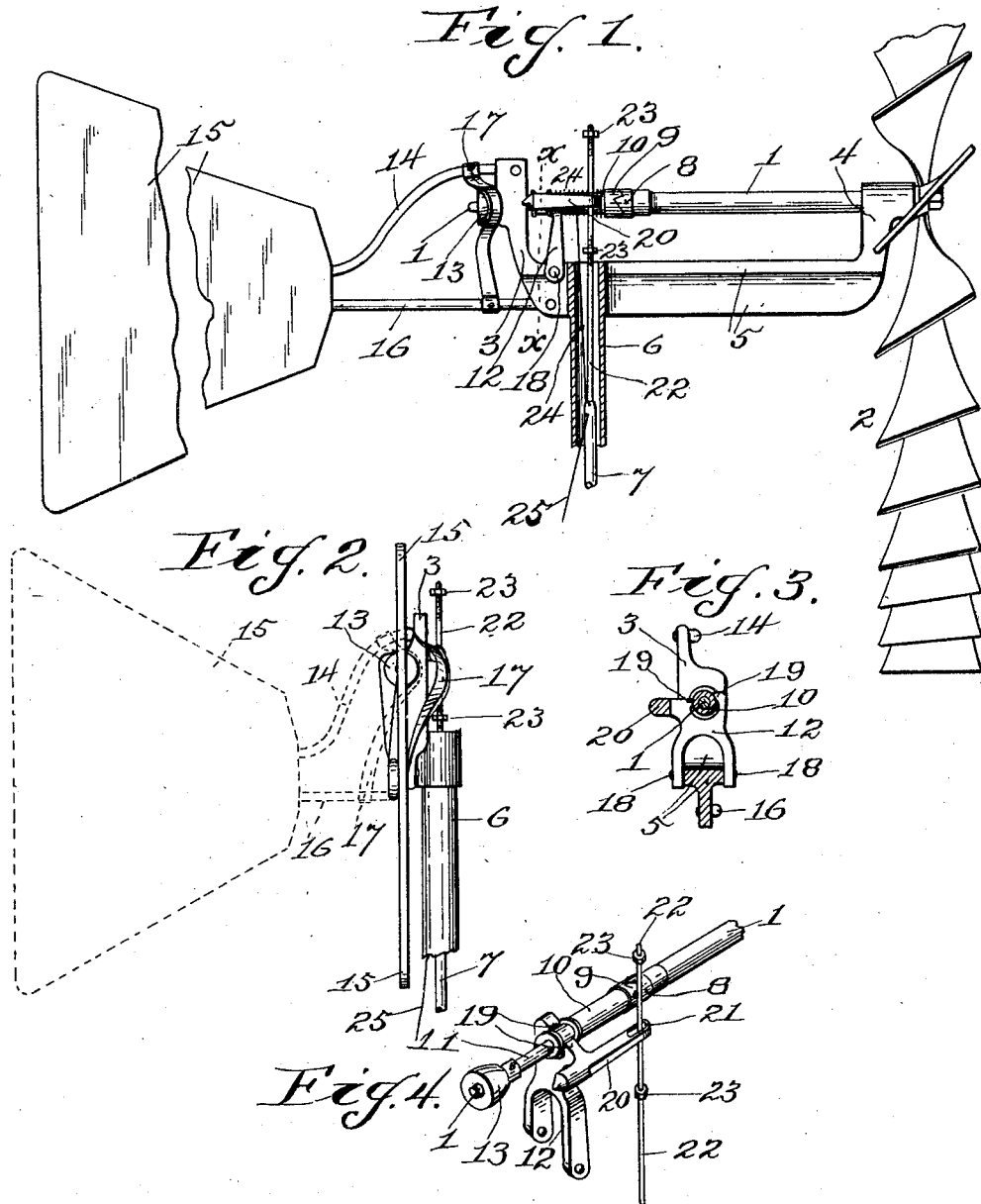


Z. G. WARD.
MECHANICAL MOVEMENT.
APPLICATION FILED JULY 18, 1912.

1,059,015.

Patented Apr. 15, 1913.



Witnesses:
E. S. Fugel.
R. F. Lansdale.

Inventor:
Ziba S. Ward
By E. J. Bell
Attorney.

UNITED STATES PATENT OFFICE.

ZIBA G. WARD, OF ESTES, TEXAS.

MECHANICAL MOVEMENT.

1,059,015.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed July 18, 1912. Serial No. 710,213.

To all whom it may concern:

Be it known that I, ZIBA G. WARD, a citizen of the United States, residing at Estes, in the county of Aransas and State of Texas, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification.

This invention relates to mechanical movements and pertains especially to improved mechanism applicable to windmills for operating pump-rods and the like.

The object of the invention is to provide certain devices and combinations thereof for automatically reciprocating a pump-rod or the like during the revolution of the wind-wheel shaft.

A further object of the invention is to provide novel and peculiar means for automatically operating a shaft-clutch and reciprocating a pump-rod during the operation of the windmill.

In the accompanying drawings forming part of this application Figure 1—is a side elevation, partly in section, showing my windmill in lifting operation. Fig. 2—is an end view, with the wheel removed, showing the movement of the brake band in dotted lines. Fig. 3—is a sectional view on the dotted line $x-x$ Fig. 1. Fig. 4—is a perspective view of the clutch, the yoke and the reciprocating stem.

The same reference characters denote the same parts throughout the several views of the drawings.

The shaft 1 of the wind wheel 2, is journaled in end uprights 3 and 4 of a frame 5, having the top end of a tube, cylinder or casing 6, attached thereto for a reciprocating rod 7. The shaft 1 has one member 8 of a clutch secured thereto, and the other clutch member 9 is formed on one end of a drum or windlass 10 slidable on the shaft, and the other end of the drum 10 has an annular groove 11, for a yoke 12, hereinafter more particularly referred to. The shaft 1 has a brake-pulley 13 attached thereto upon the outer side of the upright 3, and the short curved arm 14, of the vane 15 is pivoted to the top of the upright 3, and the long arm 16 of the vane is pivoted at the bottom of said upright so as to limit one movement of the vane. A brake-band 17 has its ends attached to the arms 14 and 16 adjacent the upright 3, and said band is curved or bowed into such shape as to engage the pulley 13 accord-

ing to the movement of the vane 15, so as to govern the movement of the shaft 1, and to limit the movement of the vane in the other direction.

The device or mechanism for automatically reciprocating the rod 7 and sliding the drum, comprises the said yoke 12 which is pivoted at 18 to each side of the frame 5, and has inward projections 19 fitting the yoke-groove 11, an arm 20 projecting from one side of the yoke above the casing 6, and having an elongation or slot 21 central with the top of the casing, a stem 22 projecting from the rod 7 through the slot 21, and provided with stops 23 for limiting the movement of the stem, and a chain or cable 24 having one end attached to the drum 10. A hand chain or rope 25, may be attached to the rod 7 or to the stem 22 for fixing the rod 7 or to assist in starting the operation of the reciprocating rod.

It will be seen that the stops are adjustable on the stem so as to change the stroke of the reciprocating rod as desired or as occasion may demand.

In operation; during the revolution of the shaft 1, and while the drum is clutched with the shaft, the drum-chain or cable raises the rod 7 until the stop on the lower portion of the stem 22 strikes or engages the under side of the arm 20, which engagement automatically slides the drum out of clutched position with the shaft and permits the rod to drop until the stop on the upper portion of the stem 22 engages the upper side of the arm 20, and such engagement automatically slides the drum into clutch engagement with the shaft.

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

1. The combination with a supporting frame having uprights at the ends thereof, a shaft journaled in the uprights, and a reciprocating lift rod, of a drum slidable on the shaft, a clutch between the shaft and the drum, a stem having stops and projecting from the said rod, a cable attached to the rod and windable on the drum, and a yoke pivoted to the frame and engaging the drum and having said stem extending therethrough for operating the clutch.

2. The combination with a supporting frame, a shaft journaled in and extending through the ends of the frame, and a lift

rod, of a drum slidably and revolubly mount-
ed on the shaft, a clutch for coupling the
shaft and the drum, a yoke having a lateral
projection and pivoted to the frame in en-
5 gagement with the drum for operating the
clutch, a stem projecting from the rod and
extending through the projection, stops on
the stem and engaging the projection to
give the yoke pivot movement for operating

the clutch, and a chain or cable attached to 10
the rod and windable on the drum.

In witness whereof I hereunto set my
hand in the presence of two witnesses.

ZIBA G. WARD.

Witnesses:

S. A. CLEVINGER,
J. W. McCARNY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
