

G. W. SCHILLING.

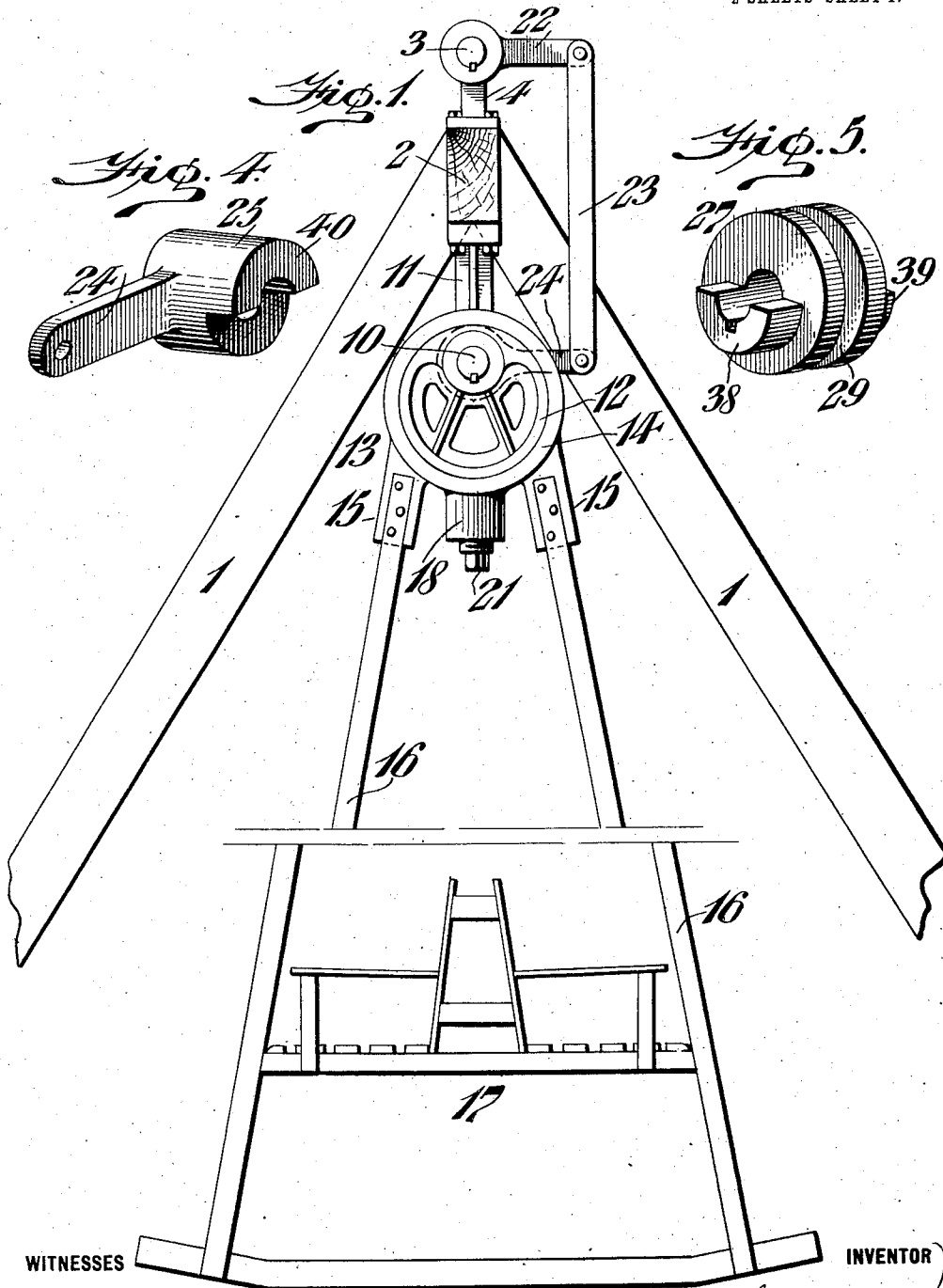
SWING.

APPLICATION FILED SEPT. 23, 1911.

1,027,157.

Patented May 21, 1912.

2 SHEETS-SHEET 1.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 1

Fig. 2

WITNESSES

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SWING.

1,027,157.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. SCHILLING, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Swing, of which the following is a specification.

My invention relates to swings and more particularly to power-driven swings, such as that disclosed in my application for Letters Patent, filed September 7, 1909, Serial No. 516,550, in which an embodiment of my present invention is illustrated and briefly described, and it consists of improved means for starting and stopping a swing of such character.

It further consists of improved means for controlling the speed of such a swing at various points of its operation.

It further consists of improved means for controlling the starting and stopping of the swing.

It further consists of other novel features of construction all as will be hereinafter fully set forth.

The annexed drawings and the following description set forth in detail, one mechanical form embodying the invention, such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

Figure 1 represents a side elevation of as much of a swing and its supports as will illustrate the application of my invention. Fig. 2 represents a front elevation of parts of the supporting frame and of the arms for the swing, illustrating my invention applied thereto. Fig. 3 represents an enlarged sectional view of the eccentric device for the swing-arms. Figs. 4 and 5 represent perspective detail views of two elements of the clutch.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, the numerals 1 indicate the inclined props which, together with the top-bar, 2, form the supporting frame of the swing. A rock-shaft, 3, is journaled to rock in bearings 4, upon the top-bar, and said shaft has an arm, 5, secured to it, to the end of which is pivotally connected a pitman, 6, pivoted at its lower end to a crank-pin, 7, upon a disk, 8, secured upon a drive-shaft, 9, receiving rotary motion from a suitable source. A rock-shaft, 10, is journaled to rock in hangers, 11, de-

pending from the top-bar, and eccentric disks, 12, are keyed upon the ends of said rock-shaft. Heads, 13, form each an eccentric strap, 14, and diverging sockets, 15. The straps fit upon the eccentric disks, and the diverging arms, 16, which support the swing, 17, have their ends secured in the sockets. The heads are each formed with a radial, tubular neck, 18, preferably between the diverging sockets, and a brake-shoe, 19, fits in the inner end of such neck to frictionally engage the eccentric disk, and has a spring, 20, bearing against it, the tension of which spring is adjusted by a screw, 21, bearing against the other end of the spring and threaded into the neck. An arm, 22, is secured to project from the upper rock-shaft 3, and has a connecting rod, 23, pivotally connected to it, the lower end of which is connected to an arm, 24, projecting from a clutch-collar, 25, free to turn upon the swing-supporting rock-shaft and secured against longitudinal displacement upon said shaft by a collar, 26, secured upon the same.

A clutch-sleeve, 27, slides upon a spline, 28, upon the swing-supporting shaft, and has a circumferential groove, 29, engaged by a fork, 30, extending from a rod, 31, sliding in one of the journal hangers above the rock-shaft. A spring, 32, surrounds said rod and bears against the bracket and against a head, 33, upon the rod. A cord, 34, is secured to said head and passes around a pulley, 35, to draw the rod to compress the spring, and around another pulley, 36, whence it depends at the side of one of the frame props, having an eye, 37, at its end by means of which it may be secured to one of a number of pegs, 42, or similar projections upon the prop. The ends of the sliding clutch-sleeve are cut away to form semi-annular clutch-lugs, 38 and 39, and the end of the clutch-collar is similarly cut away to form a clutch-lug, 40, to engage the cut-away space in the end of the clutch-sleeve and the space in the collar being engaged by the clutch-lug 38 of the sleeve. The face of the hanger is formed with a semi-annular clutch-lug, 41 to fit with and engage the clutch-lug 39 upon the clutch-sleeve.

In practice, the drive-shaft is continuously rotated and the upper rock-shaft rocked thereby. When the clutch-sleeve is shifted by means of the fork, sliding rod and cord toward the clutch-collar upon the rocking

arm or, viewing Fig. 2, from right to left, the lugs upon said sleeve and collar will engage and the swing-supporting shaft will be rocked. Owing to the friction between the
 5 eccentric disks and the straps and brakes, the arms and the swing will be oscillated and, after the swing has acquired sufficient momentum, the arms may swing beyond the swing of the eccentrics, owing to the straps
 10 turning upon the latter. The friction of the straps and brakes will, however, retard such further swing, so that the reverse movement at the end of each oscillation will not be too abrupt. When the swing has acquired
 15 the desired momentum, the clutch-sleeve is shifted to its middle and disengaged position, and the swing will continue oscillating by its acquired momentum. When it is desired to stop the swing, the clutch-sleeve is
 20 shifted to engage the semi-annular clutch-lug upon the bracket, when the rock-shaft will be stopped. As, however, the swing-arms are movably suspended by the straps upon the eccentrics, the stopping of the rock-
 25 shaft will not cause the swing to suddenly stop, but the straps continue oscillating upon the now rigid disks, and the friction of the former and of their brakes will gently stop the swing. The three pegs upon the inclined
 30 prop will admit of the eye of the cord being secured to hold the clutch sleeve in its three operative positions, and the spring upon the sliding rod will throw the sleeve into "stop" position when the cord is released.

35 Other modes of applying the principle of my invention may be employed for the mode herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction respectively in the following claims are employed.

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

45 1. In a device of the character stated, a rock-shaft, means for rocking the same, an eccentric disk upon said shaft, a swing having arms, and a strap around said eccentric disk and having the swing-arms secured to it.

50 2. In a device of the character stated, a rock-shaft, means for rocking the same, an eccentric disk upon said shaft, a swing having arms, a strap around said eccentric disk and having the swing-arms secured to it, and

a spring-pressed brake in the strap and bearing against the disk.

3. In a device of the character stated, a rock-shaft, a clutch-collar loose to turn on said rock-shaft, means for rocking said collar, a rigid clutch-member, a clutch-sleeve
 60 slidable upon and rotatable with the rock-shaft between said clutch-collar and clutch-member to engage either of them, means for sliding said sleeve, eccentric disks upon the rock-shaft, and swing-supporting straps
 65 upon said disks.

4. In a device of the character stated, a drive-shaft carrying a crank-pin, a rock-shaft provided with arms, a pitman pivotally connected to one of said arms and to the
 70 crank-pin, a swing-supporting rock-shaft, a clutch-collar loose to turn on said latter shaft and having an arm, a connecting rod pivotally connected to said arm and to an arm upon the first-recited rock-shaft, a rigid
 75 clutch-member, a clutch-sleeve slidable upon and rotatable with the swing-supporting shaft between the clutch-collar and the clutch-member, means for sliding said sleeve, eccentric disks upon the swing-supporting
 80 shaft, and swing-supporting straps around said disks.

5. In a device of the character stated, a rock-shaft, a clutch-collar loose to turn on said rock-shaft, means for rocking said collar, a rigid clutch-member, a clutch-sleeve
 85 slidable upon and rotatable with the rock-shaft between said clutch-collar and clutch-member to engage either of them, a spring connected to slide the clutch-sleeve against
 90 the rigid clutch-member, means for positively sliding the clutch-sleeve in the opposite direction, eccentric disks upon the rock-shaft, and swing-supporting straps upon said disks.

6. In a device of the character stated, a rock-shaft, eccentric disks secured upon said shaft, straps upon such disks, a swing suspended from said straps, means for rocking
 100 said shaft, means for connecting and disconnecting said rocking means to and from said shaft, and means for positively stopping said shaft.

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Witnesses:

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