(No Model.)

I. N. FORRESTER.

SWING.

No. 294,983. Patented Mar. 11, 1884.

Fig. 1.

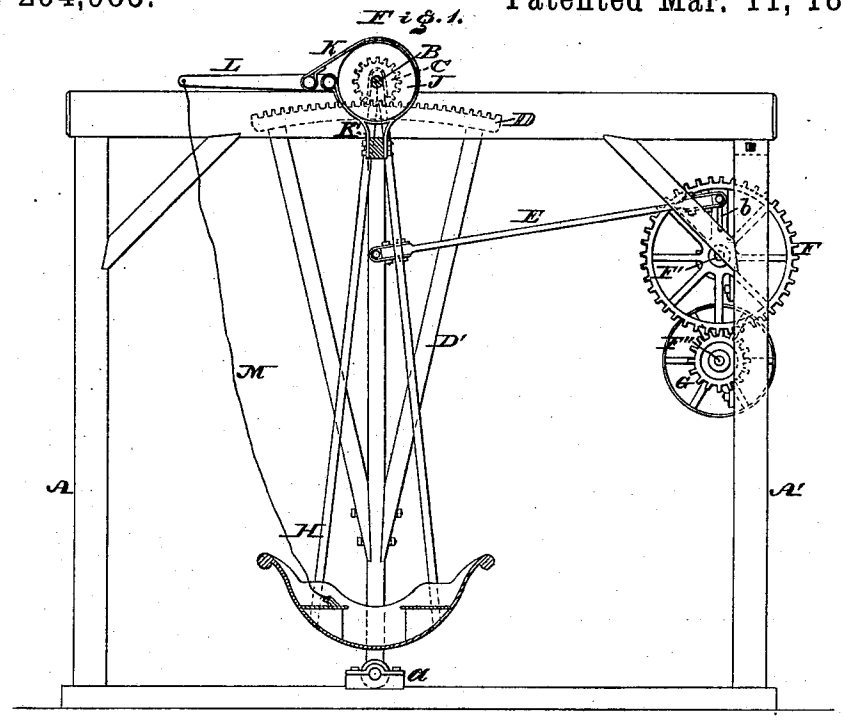
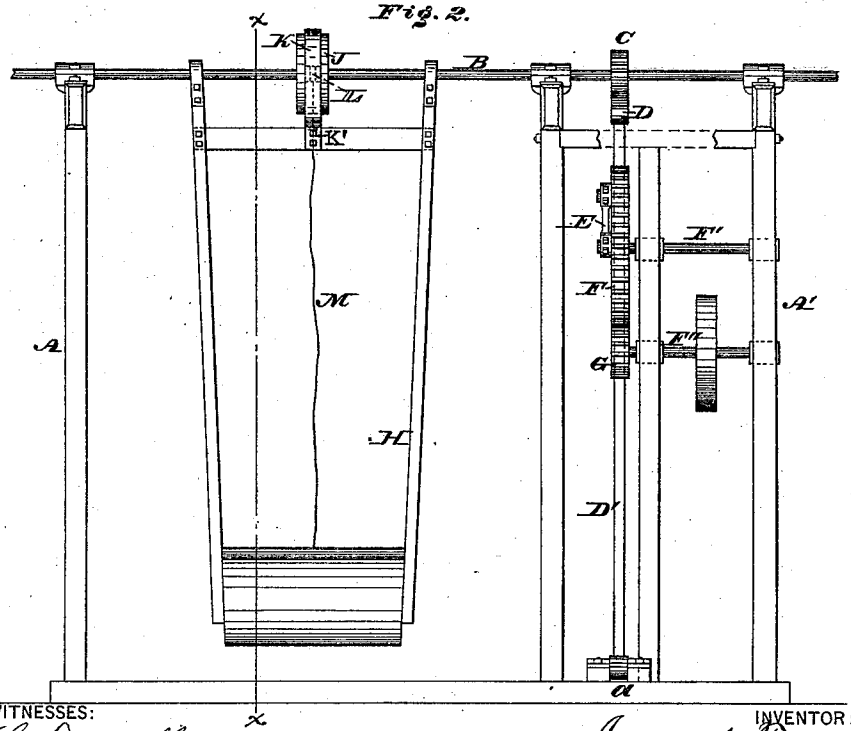


Fig. 2.



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UNITED STATES PATENT OFFICE.

ISAAC N. FORRESTER, OF CAMDEN, NEW JERSEY.

SWING.

SPECIFICATION forming part of Letters Patent No. 294,983, dated March 11, 1884.

Application filed August 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, ISAAC N. FORRESTER, of the city and county of Camden, State of New Jersey, have invented a new and useful Improvement in Swings, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a vertical section in line *x x*, Fig. 2, of a swing embodying my invention. Fig. 2 is an end view thereof.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists of a swing, which may be engaged by the occupant thereof with mechanism operated by power.

Referring to the drawings, A A′ represent a suitable frame, on the upper end of which is mounted a horizontally-arranged shaft, B, to which is keyed or otherwise secured a pinion, C.

D represents a toothed segment, which is secured to an oscillating frame, D′, the axis whereof is on the base-piece of the frame A, as at *a*, said segment meshing with the pinion C.

To the frame D′ is attached one end of a pitman or rod, E, the opposite end being connected with a crank-wheel, F, with which gears a pinion, G, the shafts F′ F″ of said wheel and pinion having their bearings on the frame A′, the shaft F″ carrying a pulley or having a crank-handle, whereby power may be communicated to the gearing G F, the segment D, and the pinion C, and rocking motions imparted to the shaft B.

Depending from and loosely fitted to the shaft B is the swing H, and fixed to said shaft is a cylindrical head or pulley, J, which is loosely encircled by a strap, K, formed of metal or other suitable material of an elastic nature, said strap being firmly secured to a casting or piece, K′, on the upper portion of the frame of the swing.

L represents a lever, which is pivoted to one end of the strap K, and has also connected with it at another point the other end of said strap K. To said lever is secured a cord or connection, M, the lower end whereof is within convenient reach of the occupant of the swing.

It will be seen that when the shaft F″ is operated motion in opposite directions is continuously imparted to the head J, the swing, however, remaining inactive, owing to the freedom of the strap K from the head J.

When the swing is occupied, the occupant depresses the lever L by means of the cord M, whereby the strap K is clamped tightly on the head J and the motion of the latter is communicated to the swing. When it is desired to stop the swing, the cord M is let go, and the strap K, owing to its expansion, separates from the periphery of the head J, whereby the swing is relieved of the power of said head, and thus again becomes inactive. The motion of the strap raises the lever L, and the parts are in position to repeat the operation of clamping or clutching the swing with the head or pulley on the shaft B, it being noticed that the power imparted to the shaft B continues, so that the swing may be set in motion at any time simply by operating the friction or clamping strap and keeping it against the head by means of the cord or connection M and lever L.

If desired, means may be provided for securing the cord to the swing during the operation of the latter, so as to relieve the occupant of holding the same while clamping the strap and head.

The wheel F has a radial slot, *b*, in which is fitted the connecting pin or stud of the pitman or rod E, whereby the latter may be set nearer to or farther from the center of the axis of said wheel F, and the throw of the segment D and consequently of the swing thus regulated.

The shaft B may be extended and supported so as to be adapted for a number of swings, properly arranged thereon at intervals, and corresponding numbers of heads or pulleys J, friction-straps K, and levers L will be employed to cause the operation of the swings, similar to that hereinbefore stated for a single swing, without interfering with each other.

If desired, the pinion C and segment D may be of the form of friction-gearing, the object in which case being to impart rotary reciprocating motion to the shaft B.

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

1. A swing hung loosely on a shaft which is adapted to rock or be continuously rotated in reverse directions, in combination with de-

vices for coupling said swing and shaft, whereby the swing may be set in motion by the operation of said devices and stopped by the release of the same without stopping the rocking shaft, substantially as and for the purpose set forth.

2. A swing hung loosely on a shaft, and means for clamping the swing and shaft, in combination with means for rotating said shaft in reverse directions, whereby the swing and shaft may be continuously coupled and the swing receive motions in both directions from the shaft, substantially as and for the purpose set forth.

3. A swing, in combination with a shaft from which it depends, a pinion on said shaft, a toothed segment attached to an oscillating frame and engaging with said pinion, and mechanism for coupling said swing and shaft, substantially as and for the purpose set forth.

4. A swing hung loosely on a rocking shaft and means for rotating said shaft in reverse directions, in combination with a head or pulley on said shaft, a coupling or clutching device connected with the swing, adapted to engage with said head, and a lever for operating said device, combined and operating substantially as set forth.

5. A swing, in combination with a reversely-rotating shaft and means for operating the same, a head on said shaft, a friction-strap connected with the swing, freely encircling said head, and a lever for compressing said strap on the head, the lever being connected with both ends of the friction-strap, substantially as and for the purpose set forth.

6. A swing, rocking shaft, and connected gearing, in combination with a pitman or rod and a crank-wheel, said rod being adjustably connected with said wheel, substantially as and for the purpose set forth.

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