(No Model.)

F. J. SMITH.

HOBBY HORSE.

No. 555,536. Patented Mar. 3, 1896.

Fig. 1.

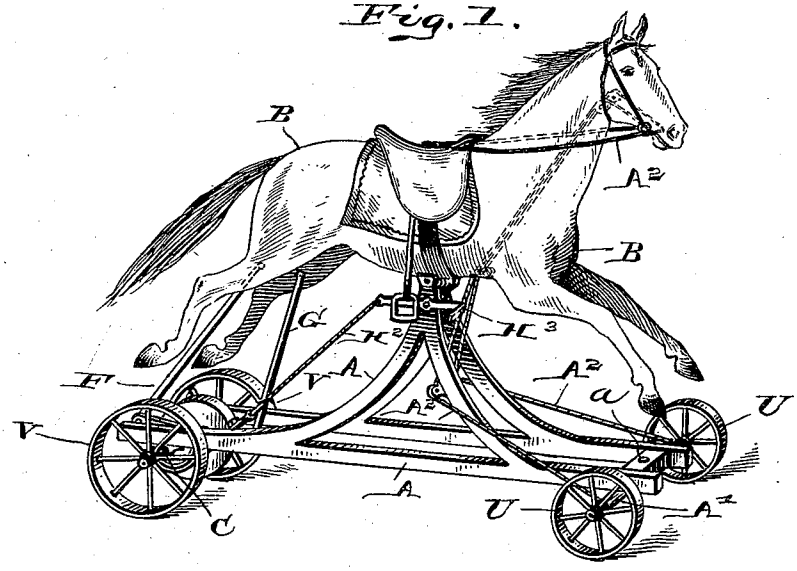


Fig. 3.

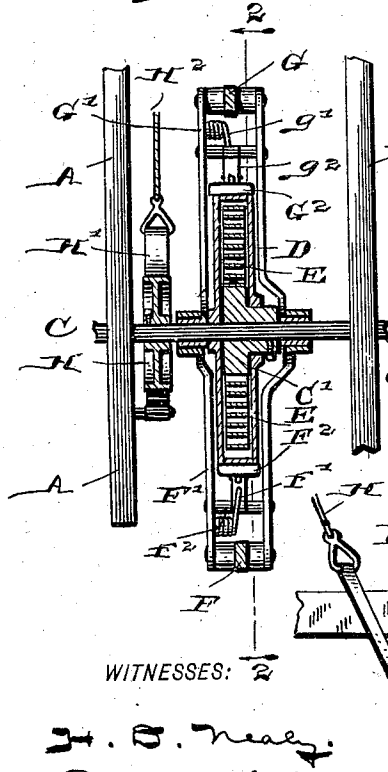


Fig. 2.

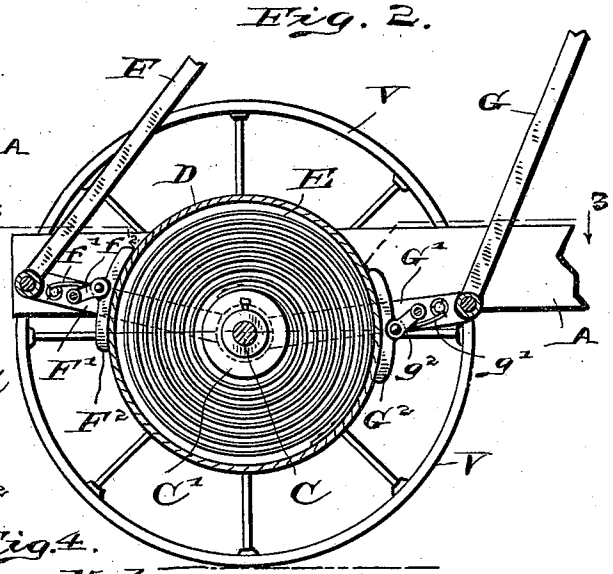
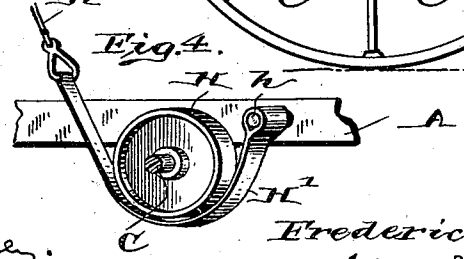


Fig. 4.



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HOBBY-HORSE.

SPECIFICATION forming part of Letters Patent No. 555,536, dated March 3, 1896.

Application filed March 5, 1895. Serial No. 540,598. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. SMITH, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Hobby-Horses, of which the following is a specification.

My said invention relates to that class of toys known as "hobby-horses;" and its object is to produce such a toy which shall not only be capable of the usual rocking motion, but also capable of locomotion.

A hobby-horse embodying my said invention will be first fully described, and the novel features thereof then pointed out in the claim.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a hobby-horse embodying my said invention; Fig. 2, a detail vertical sectional view on the dotted line 2 2 in Fig. 3; Fig. 3, a top or plan view of substantially the same parts shown in Fig. 2, the spring and the drum inclosing said spring being shown in section; and Fig. 4, a detail perspective view of the brake and brake-wheel.

In said drawings the portions marked A represent the framework; B, the horse; C, the main or driving axle; D, a drum; E, a spring connecting a hub on said axle to said drum; F and G, connecting-rods connected to the horse and adapted to drive intermediate devices to operate the drum and wind up the spring, as will be presently more fully described, and H a brake-wheel.

The frame A is mounted on the axles A′ and C, which are respectively supported by the ordinary floor-wheels U U and V V. The forward axle is connected to the frame by an ordinary king-bolt *a*, so that it may turn after the ordinary manner of the front axle of the vehicle. Connected to each end of said front axle are cords A^2, which run back over pulleys on the frame, as shown, up to the head of the horse, and thence may run back to the hands of the rider. Thus by means of these cords, which at the point of being grasped are in the position of bridle-reins, the structure may be steered or guided in use.

A horse B is mounted on the apex of the frame A by hinge connection, over which it is adapted to rock back and forth, and at the same time, through the rods F and G, wind up the spring E. This so-called "horse" may, of course, be of any form desired, although I prefer a form similar to that of the animal so named, as shown in the drawings, equipped with bridle and saddle, the latter being provided with stirrups for the feet of the rider.

The rear axle C carries the wheels V rigidly mounted thereon, and also a central hub C′. The wheels being rigidly mounted on the axle, to revolve the axle of course also revolves the wheels and propels the structure. Surrounding the axle and its hub C′ is the hollow drum D, which may revolve loosely on the axle, and the outer surface of which is formed to be gripped by the clutching devices of the propelling apparatus.

The spring E is preferably a plain flat coiled spring, the inner end whereof is made fast to the outer surface of the hub C′ and the outer end whereof is made fast to the inner surface of the drum D. Manifestly by revolving said drum in the proper direction the spring will be coiled up tightly, after the manner of winding a clock-spring.

As before stated, the connecting-rods F and G extend down from the horse for the purpose of effecting the last above-named operation. They are respectively connected to the arms F′ and G′, which are pivoted at the inner ends upon the axles C. These arms are preferably double, or one upon each side of the drum, with the rods F and G extending down between them. Also positioned between said arms are clutching devices F^2 and G^2, which are something in the form of brake-shoes and fit against the outside of the drum, much as the shoe of a car-brake fits against the surface of a car-wheel. These clutching devices are carried by links f^2 g^2, and these are held in contact with the drum D by springs f' g'. As will be noticed by an examination of Fig. 2, these links and springs are set oppositely to each other, so that when the rods are descending the device G^2 will be forced tightly against the surface of the drum D and thus revolve it on the shaft, while the device F^2 will slide loosely over the surface of said drum, and when said rods are ascending the reverse will be true, and then the device F^2 will be in engagement and will revolve the

drum, while the device G^2 will slip loosely over its surface. The effect, as will be readily understood, is, as the horse is rocked back and forward, to continually revolve the drum and wind up the spring, and as soon as sufficient spring force is thus applied to the shaft the structure as a whole will begin to be propelled by said spring force, moving on its wheels U and V, and thus a locomotive as well as a rocking movement is secured.

The spring being the part which is interposed between the driving and the driven parts, and being elastic, and being capable of greater or less winding at each motion, as may happen, it will be readily seen that no shock comes upon the parts during the operation at any point; and should the rocking cease the driving may still progress until the spring is unwound, and should the apparatus have by that time acquired momentum it may still continue to move without injury, as the outer surface of the drum will easily slip under the devices F^2 and G^2 in that direction.

The brake-wheel H is rigidly attached to the axle C at a convenient point alongside the drum and convenient to the frame A. A strap-brake H′ may be secured to a projection *h* on said frame A and pass thence under the wheel, with a wire or cord H^2 leading therefrom up to a lever H^3 pivoted to the frame A at a point near one of the stirrups of the saddle. The rider, by removing his foot from said stirrup and placing it on said lever H^3, can thus easily apply the brake and stop the forward movement of the apparatus at any time desired. Said brake may also be used by the rider to hold the axle from turning until the desired tension of the spring is secured for propelling the apparatus at a desired speed. Thus the apparatus may be held from moving until the spring is coiled up to its greatest tension, when it will be capable of propelling the apparatus for a considerable length of time without further winding, the rider being thus enabled to secure a variety of speeds and also vary the method of operation, thereby adding to the attractiveness and pleasure-affording qualities of the apparatus, inasmuch as a continual rocking of the body is not required to keep up the motion of the apparatus in a forward direction, and it can be rocked without propelling it and propelled without rocking while in motion.

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

The combination, in a hobby-horse, of a frame carried by axles and wheels, a horse or body B mounted on the frame by means of a hinged connection, a drum D loosely mounted on the driving-axle C, a spring E connected at one end to the interior of said drum, and at the other end to said axle, connecting-rods F and G leading from the horse or body B, swinging arms F′ and G′ mounted at their inner ends on the axle C and connected at their outer ends to said connecting-rods, and clutching devices consisting of the plates F^2 and G^2 connected to said arms by means of the links f^2 and g^2 and held into engagement with the surface of the drum by the springs f' and g', whereby by rocking the horse the spring is wound and the force thereof transmitted to the driving-axle, and the structure thereby propelled, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 23d day of February, 1895.

FREDERICK J. SMITH. [L. S.]

Witnesses:
A. T. BRUBAKER,
JAMES A. WALSH.