(No Model.)

A. E. SEINECKE.

STARTING AND PROPELLING DEVICE FOR REVOLVING MECHANICAL TOYS.

No. 430,322. Patented June 17, 1890.

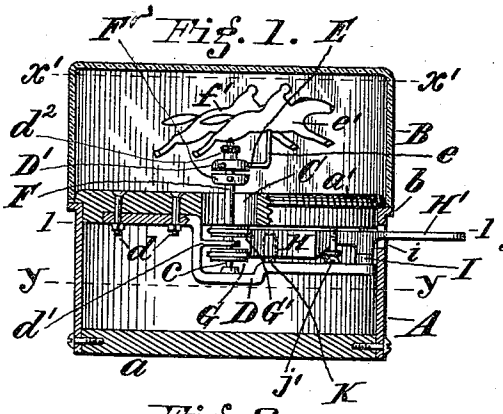


Fig. 1.

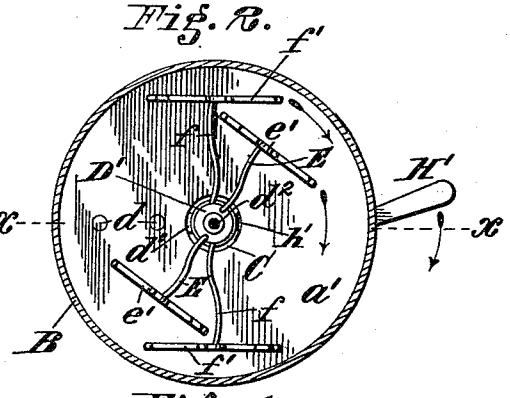
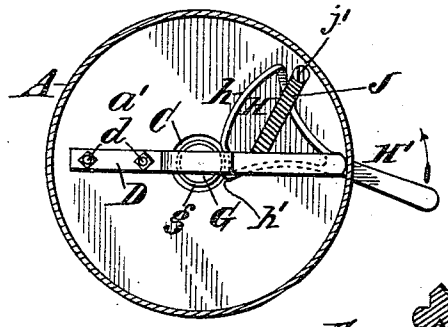
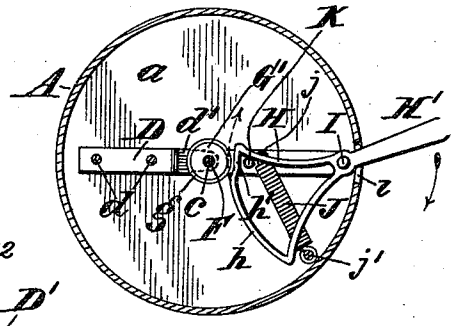


Fig. 2.

Fig. 3.

Fig. 4.





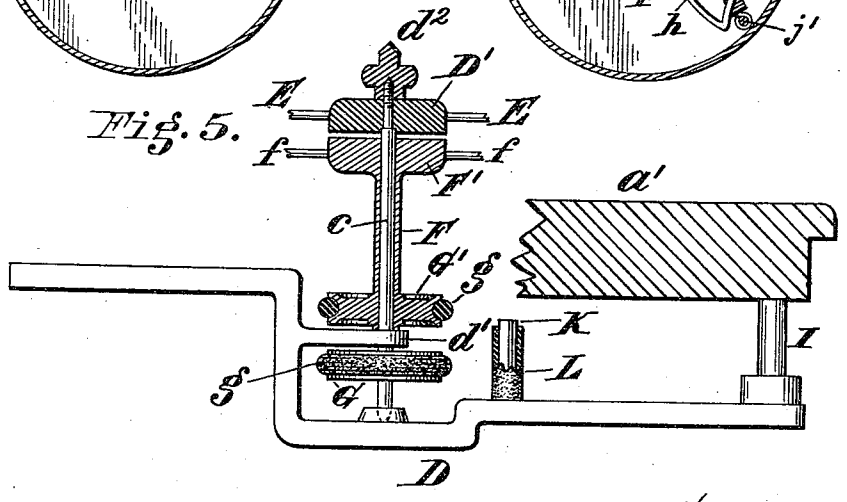


Fig. 5.

Attest

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STARTING AND PROPELLING DEVICE FOR REVOLVING MECHANICAL TOYS.

SPECIFICATION forming part of Letters Patent No. 430,322, dated June 17, 1890.

Application filed March 10, 1890. Serial No. 343,245. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH E. SEINECKE, a citizen of the United States, residing at Camp Dennison, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Starting and Propelling Devices for Revolving Mechanical Toys, of which the following is a specification.

My invention relates to improvements in devices for starting and propelling in a circular path toy horses or other figures mounted on arms which project laterally from a vertical shaft, the latter being given the proper momentum to cause the revolution of said horses or figures, all as hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a central sectional elevation on line x x of Fig. 2 of the preferred form of toy embodying my invention; Fig. 2, a sectional plan on line x' x' of Fig. 1, the arrows therein indicating the direction of movement of the several parts; Fig. 3, a sectional plan on line y y, Fig. 1, (looking upward,) of the bottom of the table or track over which the horses or other figures revolve; Fig. 4, a sectional plan on line 1 1 of Fig. 1; and Fig. 5, a full-size elevation, partly broken and in section, of my invention, with the handled cam and spring for operating it omitted.

A represents a cylindrical case or shell, having bottom a and a shouldered top or table a'.

B represents a glass or other transparent top or cover, fitting the flange b on the top of cylinder A, as clearly shown in Fig. 1, and secured, if desired, in any suitable manner.

C represents a central opening in the shouldered top or table a', and c a vertical shaft or spindle in said opening, with its lower end stepped or bearing in a horizontal angular bar or bridge-tree D, secured to the bottom of said table by means of bolts d d. d' is an arm projecting centrally beneath said opening C, from the vertical portion of bridge-tree D, and provided with a suitable opening through which said shaft c passes and has a bearing.

D′ represents a circular hub or head held firmly and detachably in place on the upper shouldered and screw-threaded end of spindle c by means of an internally-threaded cap or nut d^2.

E E represent a pair of radial double-curved arms, projecting in opposite directions from the hub D′, and provided at their outer upturned ends e with miniature horses or other figures e' e'.

F represents the vertical sleeve surrounding said spindle, and provided at its upper end with a circular hub or head F′, similar to the hub D′, above described. The upper face of hub F′ lies adjacent the lower face of hub D′, with a slight space between them to obviate undue frictional contact and permit both the hub and sleeve to revolve freely and independently upon the spindle. Hub F′ is also provided with a pair of radial arms f f, projecting in opposite directions therefrom, similar to said hub D′ with its arms E E; but the arms f f are longer than those on the hub D′, so that the miniature horses or other figures f' f' on their outer upturned ends may revolve in a circular path of greater diameter than the path followed by the horses e', thus permitting said horses on the arms E E to pass those on the arms f f unobstructed, and vice versa, as usual in revolving toys of this character.

G G′ represent grooved wheels or disks having yielding tires g g, of rubber or other suitable material, the wheel G being firmly mounted upon spindle c immediately below its journaling-arm d', and the wheel G′ similarly mounted upon the lower end of sleeve F, or constructed integral therewith, if desired, immediately above said arm d', all as clearly shown in Fig. 5.

H represents an open cam pivotally mounted upon the shouldered upright pin or bearing I at one end of the bridge-tree D, and provided with a handle or lever H′, which projects outwardly through an opening i in the cylinder or case A, as shown in Figs. 1 and 4.

I construct the face of cam H in two arcs h and h', both having a common center in the pin I. The arc h is the major one of the two, the arc h' being a very short one at one end of the cam and lying nearer said central point than said arc h, thus practically forming an

offset or blank in the face of the cam, which offset normally lies adjacent said rubber-tired disks, with a suitable space intervening to prevent any mutual contact whatever.

J represents a spiral spring connected at one end with a pendent pin *j*, located on the lower edge of the cam adjacent said offset corner *h'*, and at its other end with a pendent screw or pin *j'* on the bottom of table *a'*, as shown in Figs. 1, 3, and 4.

K is an upright strike-pin or stop on the bridge-tree D near its middle portion, and preferably provided with an elastic sheathing or sleeve L, as shown in Fig. 5.

The operation of my device is as follows: The handle or lever H' being turned in the direction of the arrow, brings the face or arc *h* of the cam into intimate frictional contact with the yielding tires of both disks G G', said face of the cam being broad enough to take in both said disks, and materially compresses them during such impingement, which may be entirely or partially across the length of said long arc *h*, as desired. During this movement of the cam-lever the spring J is expanded or stretched, and as soon as the handle is released, which must be quick and sudden, the contraction or recoil of said spring instantly and automatically returns said cam to its normal position, the impingement of its face *h* upon the rubber-tired disks continuing until the offset *h'* is reached, when said disks are very suddenly released and permitted to freely and swiftly revolve, together with their accompanying spindles and horses. The strike-pin K projects upward from the bridge-tree within the opening of cam H, and forms a suitable stop or abutment for said cam when it is forcibly and suddenly brought to its normal position by the recoil of said spring. The rubber facing or sleeve on the pin K forms a cushion to prevent jar, shock, or noise when said cam strikes against the pin in said recoil of the spring.

I claim—

1. In a revolving mechanical toy, the combination of a vertical shaft, one or more disks having yielding frictional faces or peripheries, suitable figures or objects mounted on said shaft, and an unjointed pivoted starting cam-lever, the latter having a smooth offset face *h h'*, which impinges upon the yielding faces of said disk or disks, and is provided with a reacting propulsion-spring J, substantially as and for the purpose specified.

2. In a revolving mechanical toy, the combination of a table A, vertical shaft or spindle *c*, sleeve F, radial arms and miniature horses or figures E *e' f f'*, rubber-tired disks G and G' on said spindle and sleeve, respectively, bridge-tree D, cam-lever H H', having offset disk-impinging face *h h'*, spiral retractile spring J, and strike-pin or stop K, constructed, arranged, and adapted to operate substantially as and for the purpose specified.

In testimony of which invention I have hereunto set my hand.

ADOLPH E. SEINECKE.

Witnesses:
JOHN E. JONES,
L. M. JONES.