

July 17, 1951

M. ERNST

2,560,938

PUSHING AND DRIVING MECHANISM FOR TOYS

Filed July 12, 1949

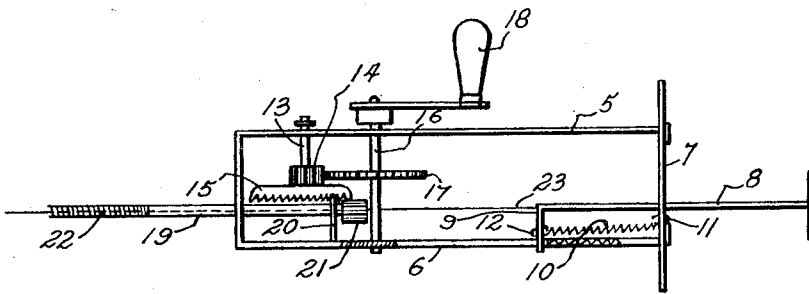


Fig.1

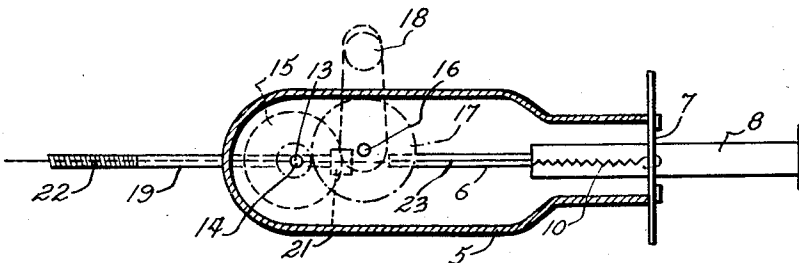


Fig. 2

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UNITED STATES PATENT OFFICE

2,560,938

PUSHING AND DRIVING MECHANISM
FOR TOYS

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Application July 12, 1949, Serial No. 104,286
In Germany November 30, 1948

2 Claims. (Cl. 74—502)

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This invention relates to operating means for mechanical toys.

An object of the present invention is to provide operating mechanism for mechanical toys wherein said operating mechanism is of a portable character and is adapted to control motive mechanisms of the mechanical toy, such as a toy automobile for the forward propulsion thereof and steering activities.

Rack gears operated by spring motors have heretofore been employed for the operation of mechanical toys, but such devices are not applicable to all running or rotary mechanical toys and are incapable of use if the toy does not contain a spring driving gear.

A further object of the invention is to provide a portable operating mechanism for mechanical toys whereby the toy may be simultaneously set in operation and properly steered to perform different functions.

In the accompanying drawing:

Fig. 1 is a side elevational view, partly in section, of the portable operating device for mechanical toys, and

Fig. 2 is a longitudinal sectional view.

The portable device for mechanical toys comprises an elongated casing 5 provided in a side wall therewith with a longitudinally extending slot 6 for purposes presently to appear, the rear end of the housing 5 being closed by an end wall 7. A push rod 8 slidably extends through the end wall 7 and has an angled inner end 9 directed to the wall of the housing provided with a slot 6 and extends through said slot as illustrated in Fig. 1 to be guided in its movement thereby. A retracting coil spring or the like 10 is attached at one end as at 11 to the end wall 7, while its other end is attached at 12 to the angled end 9 of the push rod 8, the spring 10 tending to normally hold the angled end of the push rod at the inner end of the slot 6 with the push rod projecting at its limit of movement outwardly of the housing 5.

A manually operated gear train is mounted within the forward end of the housing 5 and includes a stub shaft 13 journaled in a side wall of the housing 5 as illustrated in Fig. 1 and carrying a pinion 14 and a crown gear 15. A shaft 16 is journaled transversely of the housing 5 and carries a gear wheel 17 meshing with the pinion 14, one end of the shaft 16 projecting exteriorly of the housing 5 and carrying a crank handle 18.

A tubular member 19 is journaled in the forward end of the housing 5 and extends longitudinally of the housing, that portion of the tubular member 19 within the housing being journaled in a bracket 20 supported on a side wall

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of the housing and has a centrally apertured spur gear 21 fixed to the inner end thereof that meshes with the crown wheel 15.

The end of the tubular member 19 projecting outwardly of the housing 5 carries a Bowden cable 22 of a desired length adapted for attachment to a part of a mechanical toy either to effect the winding of a spring motor in the mechanical toy, the rotation of a mechanical toy, or to impart other movements thereto.

A wire core 23 extends from the inner end of the push rod 8 and passes through the apertured spur gear 21, tubular member 19, and Bowden cable 22, and this wire core may be attached to a movable part of a mechanical toy such as the steering wheels of a toy automobile.

Upon operation of the crank handle 18 to set in motion the gear train within the forward end of the housing 5, rotation is imparted to the tubular member 19 and Bowden cable 22 for the operation of an appropriate part of a mechanical toy. When the push rod 8 is projected into the housing 5, the wire core 23 will operate that part of the mechanical toy to which the forward end is attached, such as the steering wheels of a toy automobile, and the direction of travel of the mechanical toy will be changed when the push rod 8 and wire core 23 are retracted under the influence of the spring 10.

From the above detailed description of the invention, it is believed that the construction and operation will at once be apparent, and while there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

I claim:

1. Operating means for a mechanical toy comprising a casing, a manually operated gear train within the casing, a tubular member rotatably mounted in one end of the casing with its inner end in communication with the gear train and the other end extending outwardly of the casing and fixed to a flexible tubular cable adapted for attachment to a toy to be operated, a tensioned rod slidably extending through the other end of the casing and a wire core extending from the inner end of the rod through the tubular member and tubular cable for attachment to a part of the toy, said tensioned rod having an angle extension on its inner end and there being an elongated slot in a side wall of the casing with the extension therein for guiding the rod in its sliding movements.

2. Operating means for a mechanical toy com-

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prising a casing, a manually operated gear train within the casing, a tubular member rotatably mounted in one end of the casing with its inner end in communication with the gear train and the other end extending outwardly of the casing and fixed to a flexible tubular cable adapted for attachment to a toy to be operated, a tensioned rod slidably extending through the other end of the casing and a wire core extending from the inner end of the rod through the tubular member and tubular cable for attachment to a part of the toy, said tensioned rod having an angle extension on its inner end and there being an elongated slot in a side wall of the casing with the extension therein for guiding the rod in its sliding movements, the gear train including a

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tubular pinion attached to the inner end of the tubular member with the wire core extending therethrough.

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