J. V. KLEIN.

TOY.

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1,089,229.

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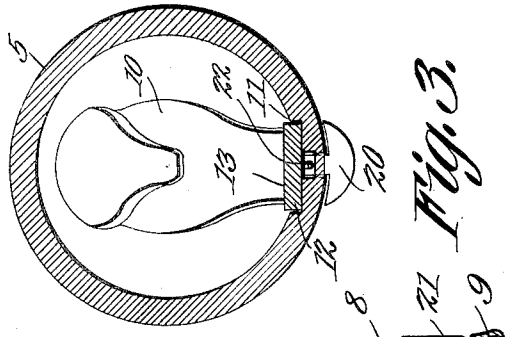


Fig. 3.

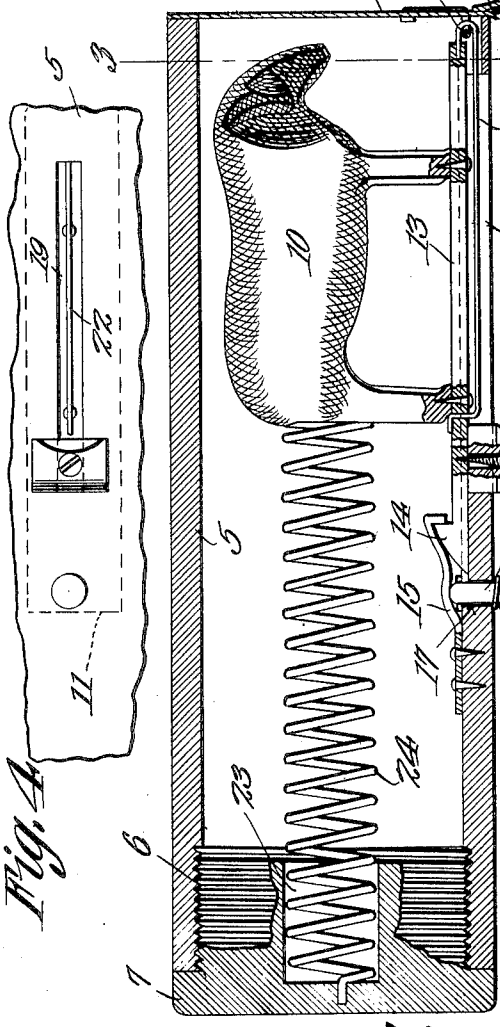


Fig. 1.

Fig. 4.

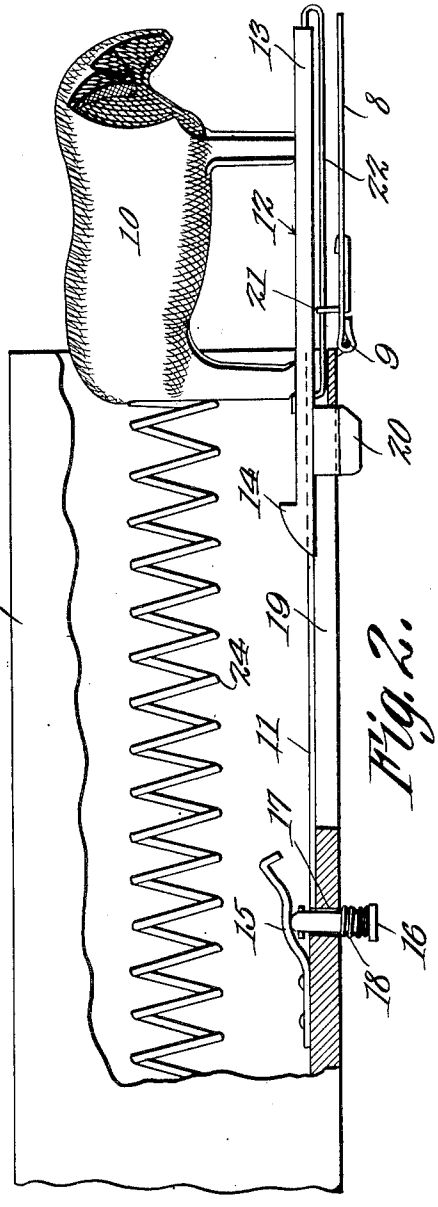


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN V. KLEIN, OF BATTLE CREEK, NEBRASKA.

TOY.

1,089,229. Specification of Letters Patent. Patented Mar. 3, 1914.

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To all whom it may concern:

Be it known that I, JOHN V. KLEIN, a citizen of the United States, residing at Battle Creek, in the county of Madison and State of Nebraska, have invented a new and useful Toy, of which the following is a specification.

This invention relates to a novel form of mechanical toy.

One object of the present invention is to provide a toy including a tubular casing in which is disposed some figure such as for instance, an animal, and to provide a carriage supporting the said figure and which is spring actuated and by the releasing of a suitable finger will move forwardly out from the tubular casing and remain so positioned.

A further object is to provide a toy including a casing with a door closing the end thereof and slidably mounting within the casing upon a suitable carriage, a figure which when said carriage is released will open the door and move outwardly therebeyond, the limit of the outward movement being limited by limiting the movements of the carriage.

A further object of the invention is to provide a spring actuated carriage carrying a figure, which from the releasing of a suitable mechanism moves partially out of a suitable casing and opens the door thereof during the said movement, and by moving the said carriage inwardly again, the door is automatically closed and the trigger mechanism engages the said carriage and holds it within the casing until the said trigger is again released.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings Figure 1 is a longitudinal sectional view of my improved toy with the figure and carriage supporting the same locked within the casing. Fig. 2 is a fragmental view of the above after the trigger mechanism has been released and the figure and the carriage has moved to its outermost position. Fig. 3 is a cross sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a fragmentary view of the under portion of the casing and illustrating the limited slot by which the movements of the carriage are controlled.

Referring to the drawings in which similar reference numerals designate corresponding parts of the several views, a tubular casing 5 is internally threaded at its rear end, as at 6, to which is secured, the rear cap 7 and is provided at its front extremity with the lid or door 8 secured thereto by the hinge 9. The casing 5 with its rear cap and door is thus adapted to house the figure therein, the figure in the present drawings taking the form of some well known animal 10. However it is to be noted, that the figure may take any desired form such as will be pleasing and appeal to those for which the present article is intended. The bottom inner surface of the casing is provided with the groove 11 as illustrated in Fig. 3, and which forms a guide like track for the carriage 12. The carriage 12 includes the runner 13 which conforms accurately to the groove 11 in which it is slidably positioned.

The rear extremity of the runner 13 is provided with the upstanding lug 14, the front portion of which is beveled and which is engageable by the spring latch 15, the latter being rigidly secured to the inner portion of the casing and at the extreme point of travel of the lug 14, so that when the runner is retracted to its innermost position, the spring latch will engage the upstanding lug 14, as illustrated in Fig. 1 and hold the said runner in such position.

The trigger 16 extends through a suitable aperture 17 and contacts with the spring latch 15, so that when the said trigger 16, and which might be mentioned in passing, is provided with a compression spring 18, is moved inwardly, it will contact with the spring latch and move the same out of engagement with the upstanding lug 14 for the releasing of the runner.

The slot 19 extends through the casing 5 communicating with the groove 11, centrally of which it extends. The slot 19, as illustrated in Fig. 4, does not extend the entire length of the forward part of the casing, but terminates short of the front edge thereof and receives therethrough, the finger engaging knob 20 which as illustrated in Fig. 3, is rounded upon its under surface to conform with the cylindrical contour of the

casing. The knob 20 serves the double function of holding the runner 13 within the groove 11 and also provides a means whereby the runner 13 may be manually reciprocated within the groove 11, the prime use thereof being for the retraction of the runner after the trigger has been released and the runner moved outwardly, and when the runner has assumed its outermost position, as illustrated in Fig. 2.

The door or lid 8 is provided with the upstanding loop 21 secured thereto and which is spaced a slight distance from the hinge support 9 of the door. The loop 21 receives the wire or rod 22 therethrough and which rod is secured at its front portion to the front of the runner 13, and extends forwardly therefrom passing through the loop 21, as illustrated in Fig. 1 after which it is bent upon itself and projects beneath the runner 13 within the slot 19 and terminates a slight distance in front of the finger actuating knob 20. The rod 22 coacts with the loop 21 to open and close the door 8 and also forms a guide and supporting means for the runner during its outward movement. The rear cap 7 is provided with the central bore 23 in which is located the rear end of a compression spring 24, the front portion of which is secured to the figure 10 or some portion of the carriage 12 upon which the figure is mounted.

From the foregoing description taken in connection with the drawings, it will be apparent that an extremely simple structure is provided and which however contains many novel and note worthy features. The upstanding loop 21 as illustrated in Fig. 2, forms a guide support for the runner 13 as it moves outwardly beyond the casing. The runner is also guided and limited in its sliding movement by means of the finger engaging knob, which as illustrated in Fig. 1, is rigidly secured to the rear portion of the said runner. Thus the runner is guided and supported at two points during its movement and so held properly within the groove 11 and at the same time allowed to rise slightly thereabove during the pivotal motion of the lid passing from a closed to an open position. In this connection, however, it is to be noted that there is considerable play between the forward loop of the rod 22 and the upstanding loop 21 of the door. With the mechanism in the position, as illustrated in Fig. 2, the finger knob 20 is manually drawn rearwardly with the result that the entire carriage including the runner 13 and figure 10 will be retracted and drawn within the casing 5 by which it is held. The retractory movement of the carriage takes place independent of the door until such time as the extreme end of the rod 22 contacts with the upstanding loop 21 of the door at which time, the said door will be rotated about the hinge 9 into a closed position, as illustrated in Fig. 1. The beveled end of the upstanding lug 14 will raise the spring latch until the end thereof engages the shoulder of the lug and snaps into a locked position therewith. The spring 24 will then be compressed but will be prevented from forcing the carriage outward by means of the said latch and lug. When it is desired to release the carriage, the trigger is forced inwardly, such position being illustrated in Fig. 2 until the latch is released from the lug at which time, the carriage springs rapidly forward opening the door 8 with which it contacts and passing therebeyond to the position, as illustrated in Fig. 2, it being prevented from leaving the casing by means of the limited slot 19 and finger engaging knob.

Having thus fully described the invention what is claimed is:

1. An apparatus of the class described, the combination of a casing, provided with a groove terminating at one end thereof, a runner slidably disposed within said groove, said casing being provided with a limited slot communicating with said groove, and means extending through said slot engaging said runner and adapted to maintain said runner within said groove; a door hingedly secured to the front end of said casing, resilient means engaging said runner adapted to move the same forwardly, and means engaging the said runner and adapted to hold the same in a retracted position.

2. In a toy, the combination of a casing, a door hingedly secured thereto, said casing provided with a groove terminating at the said door, and further provided with a slot communicating with said groove for a limited distance thereof, a runner slidably positioned within and guided in its movements by said groove, a finger engaging knob extending through said slot and engaging said runner and adapted to hold the same within said groove, means engaging the said casing and said runner and adapted to move the same forwardly, means secured to said casing engaging the said runner and adapted to hold the same in a retracted position, and means positioned upon the said runner engaging the said door and adapted to open and close the same with forward and reverse movements of said runner respectively.

3. In a device of the described character, the combination of a casing, provided with a groove terminating at one end thereof, and further provided with a slot of limited length communicating with the said groove and extending entirely through the side wall of said casing, a runner adapted to support a figure thereon slidably positioned within the said groove, a finger engaging knob carried by the said runner extending through

said slot and contacting with the side walls thereof, a door hingedly secured to said casing juxtaposed said groove, a guide rod secured to said runner, means secured to said door engaging said runner and guide rod, said guide rod and means upon said door coacting for the opening and closing of said door during the reciprocation of said runner, locking means rigidly secured to the said casing engaging said runner and adapted to hold the same in retracted position, means extending through the side wall of said casing for the releasing of said lock, and resilient means engaging the said runner and the said casing adapted to move the runner forcibly outward beyond the said casing.

4. In a device of the class described, the combination of a casing provided with a groove terminating at one end thereof and a slot of limited length communicating with said groove and extending through side wall of said casing, a door hingedly mounted juxtaposed the extreme end of said groove, a rear cap carried by said casing, a carriage slidably mounted within the said groove and including a runner with a figure thereon, said runner slidably disposed within the said casing groove, said carriage further including a finger actuating knob disposed upon the outer surface of said casing and engaging the runner through said slot, and a guide rod rigidly secured to and beneath said runner; said door provided with an outstanding loop slidably engaged by the said runner and guide rod, the said guide rod and upstanding door loop coacting for the simultaneous opening and closing of said door with the forward and rearward movements of said carriage respectively, a spring latch secured to the casing engaging the said runner and adapted to hold the same in a retracted position, means extending through the side walls of said casing for the releasing of said spring latch, and resilient means engaging the casing, rear cap and said carriage and adapted to move said carriage forcibly outwardly with the releasing of said spring latch.

5. In a toy of the class specified, the combination of a casing, provided with a groove extending along the inner surface thereof and terminating adjacent one end, a door hingedly secured to said casing juxtaposed the termination of said groove, the said casing being further provided with a slot of limited length communicating with said groove and extending substantially central and longitudinally thereof, a carriage including a runner with a figure supported thereupon, and a finger engaging knob disposed upon the outer surface of said casing and secured through the slot to said runner; said finger engaging knob coacting with the limited length of said slot to limit the movements of said runner, said runner slidably positioned within said groove, a guide rod bent upon itself and secured to the front end of said runner extending rearwardly therebeneath and secured at its rearward extremity to said runner, an upstanding loop carried by said door disposed between the said runner and guide rod, said guide rod adapted to open and close the said door with forward and reverse movements of said runner respectively, said upstanding loop and guide rod adapted to hold said runner within said groove, said runner provided adjacent its rear portion with an upstanding beveled lug, a spring latch rigidly secured to the casing and adapted to engage said lug to maintain said runner in retracted position, said carriage being completely housed by the said casing when in retracted position, a trigger extending through the side walls of said casing engaging said spring latch and adapted to release the same, a compression spring engaging the said carriage, and a cap threadedly engaging the rear extremity of said casing and forming an abutment for the said compression spring, said compression spring adapted to move said carriage partially beyond the said casing upon releasing of said spring latch through the intervention of said trigger.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN V. KLEIN.

Witnesses:
WILLIAM KLEIN,
L. F. MERZ.