

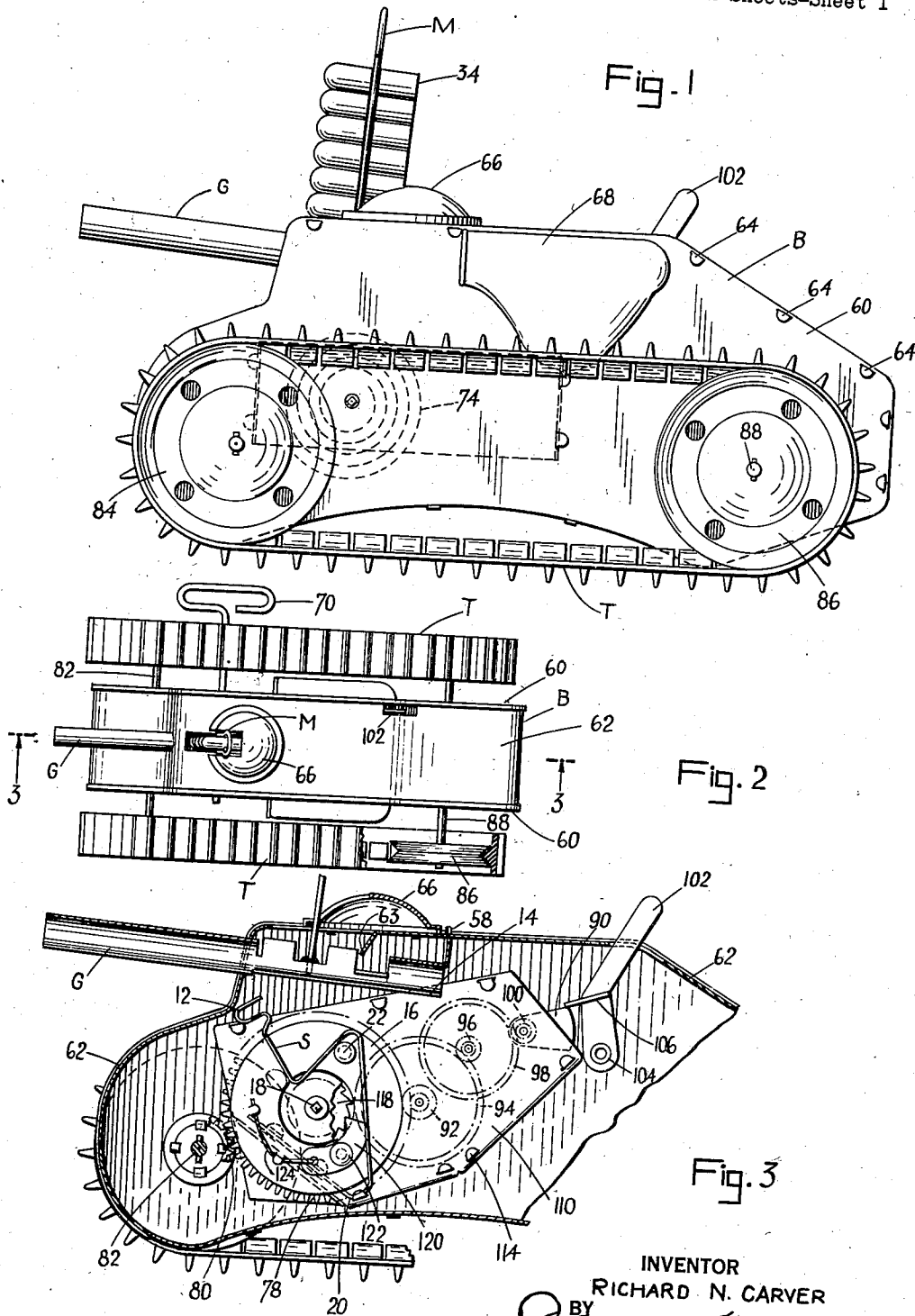
April 14, 1942.

R. N. CARVER
PROJECTILE SHOOTING TOY

Filed Sept. 13, 1941

2,279,386

2 Sheets-Sheet 1



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RICHARD N. CARVER
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2 Sheets-Sheet 2

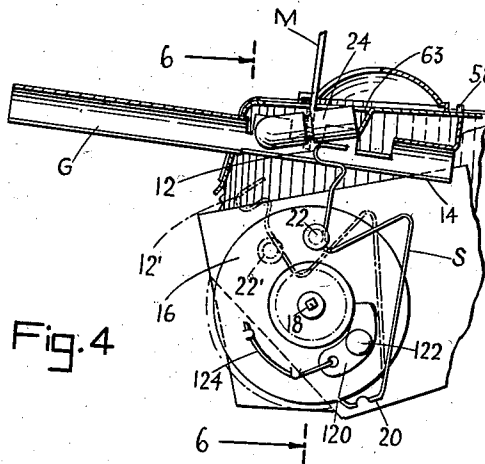


Fig. 4

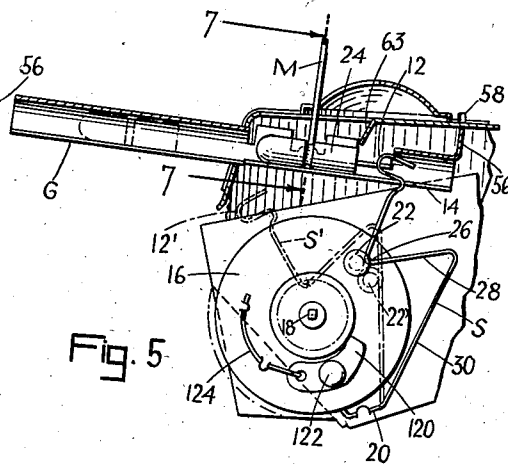


Fig. 5

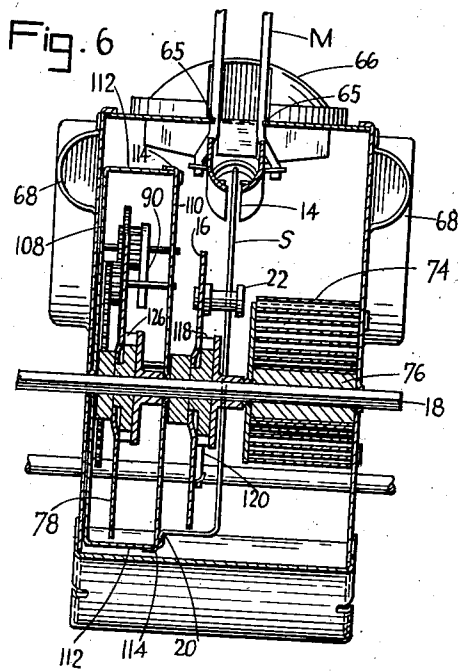


Fig. 6

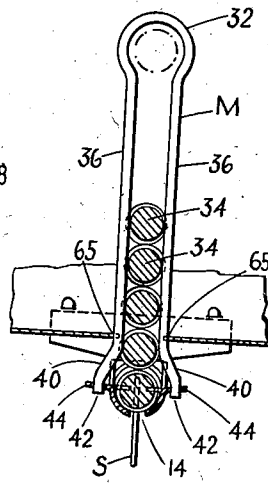


Fig. 7

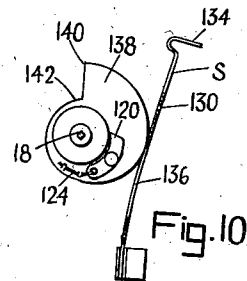


Fig. 10

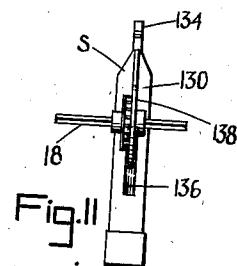


Fig. 11

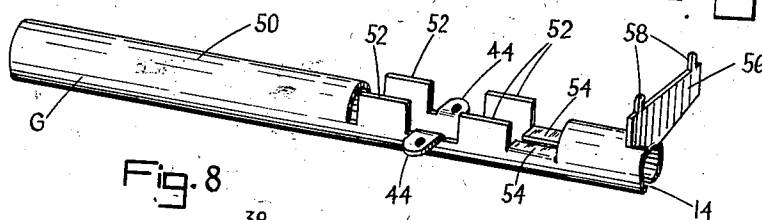


Fig. 8

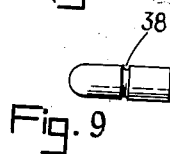


Fig. 9

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2,279,386

PROJECTILE SHOOTING TOY

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Louis Marx & Company, Inc., New York, N. Y.,
a corporation of New York

Application September 13, 1941, Serial No. 410,694

22 Claims. (Cl. 46-219)

This invention relates to toys, and more particularly to a toy tank which shoots projectiles as it runs.

Primary objects of my invention are to generally improve toy guns and toy tanks. A more particular object is to provide a relatively powerful toy tank capable of climbing over obstacles in a realistic manner, and which at the same time forcefully ejects projectiles of substantial size through a simulated cannon.

Further specific objects of the invention are to provide a relatively sturdy simplified ejector mechanism for the gun; to prevent interference between the ejector mechanism and the shaft operating the same; to provide adequate torque for operating the gun by using the main stem of the motor as the operating shaft; and to avoid operation of the gun as well as operation of the tank wheels when winding the spring motor. Still further objects of the invention center about the projectile magazine, and are to avoid an unsightly chimney-like projection on the tank or over the gun, and at the same time to simplify the structure and minimize the cost of the magazine, as well as to make the same readily removable when not in use, for more compact packaging of the tank.

To the accomplishment of the foregoing objects and such other objects as will hereinafter appear, my invention consists in the toy gun and tank elements and their relation one to the other as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawings, in which:

Fig. 1 is a side elevation of a tank embodying features of my invention;

Fig. 2 is a plan view of the same;

Fig. 3 is a section through the forward portion of the tank taken approximately in the plane of the line 3-3 of Fig. 2;

Fig. 4 is a similar but fragmentary section showing the relation of the parts as the ejector spring is being tensioned;

Fig. 5 is a similar section showing the relation of the parts as the ejector spring is fully tensioned and then released;

Fig. 6 is a transverse section taken approximately in the plane of the line 6-6 of Fig. 4;

Fig. 7 is a section at the magazine and is taken substantially in the plane of the line 7-7 of Fig. 5;

Fig. 8 is a perspective view showing the construction of the gun barrel;

Fig. 9 shows the projectile used with the gun; Fig. 10 schematically illustrates a modified ejector spring mechanism; and

Fig. 11 is a side elevation of the same.

Referring to the drawings and more particularly to Figs. 1 and 2, the complete toy comprises a tank body B which moves on caterpillar treads T. The tank includes a simulated gun G which is supplied with projectiles from a magazine M. Both the gun G and tread T are driven by a single spring motor housed within the tank body.

Considering the arrangement in greater detail, and referring now to Figs. 3-6, the projectile is fired by means of an ejector spring generally designated S. The upper end 12 of spring S is movable through the breech portion of the gun, and the latter is provided with an open slot 14 at the bottom for this purpose. The spring is actuated by a spring-tensioning wheel 16 carried on a shaft 18 extending transversely across the tank. The lower end 20 of spring S is fixedly mounted at a point below the gun and substantially below the shaft 18. In the present case the wheel 16 is a crank disc carrying a crank pin 22. The crank pin rotates clockwise as viewed in Figs. 3, 4, and 5 of the drawings.

Referring to Fig. 4, the crank pin bears against the spring in the position 22' and so bends the spring rearwardly from the broken line position 12' to the solid line position 12. At this time the lowermost projectile 24 is raised or tilted slightly to accommodate the rearward movement of the spring. As the rotation of the crank proceeds, the crank pin 22 moves the spring to the solid line position shown in Fig. 5, at which time the crank pin reaches a sharp bend 26 in the spring. When the crank pin moves slightly further to the broken line position 22' shown in Fig. 5, it clears the upwardly bent part 28 of the spring, thus permitting the latter to fly forward to the broken line position S'. During this forward movement, the upper end 12 strikes the rear end of projectile 24 and ejects it forcibly through the gun barrel. The continued forward movement of the spring is arrested when the upright portion 30 thereof reaches the crank pin in its position 22'. A sharp blow or percussive noise is produced at this time, which accompanies the ejection of the projectile and heightens the realism of the toy. During the continued rotation of the crank disc, the spring remains substantially in its forward position. It will be observed that the shape of the spring S is such that the shaft 18 does not interfere with the movement of the spring.

The magazine M is very simple in character and is best shown in Fig. 7, referring to which it will be seen that it comprises a piece of heavy bent wire of inverted U-shape. The upper end 32 is curved on a radius large enough to receive the cylindrical projectiles 34, but the parallel legs 36 of the magazine are disposed somewhat closer together and are dimensioned to fit in a circumferential groove 38 provided around the periphery of each projectile, as is best shown in Fig. 9. The lower ends of the legs of the magazine are bent outwardly enough to clear the lowermost projectile as is shown at 40 in Fig. 7. The ends 42 are then brought to parallel relation and are received in ears 44 preferably formed integrally with the gun.

With this arrangement it will be seen that a stack of projectiles may be loaded into the magazine by passing the same one at a time through the enlarged top portion 32. One important advantage of this magazine is that the projectiles disposed visibly above the tank, as shown in Fig. 1, do not detract from the realistic appearance of the tank as much as would an enclosed magazine. Moreover, as the projectiles are consumed, the remaining magazine is simply a wire of no appreciable dimension and does not detract from the appearance of the tank. There is the manufacturing advantage of simplicity and low cost. There is a further advantage in that the magazine is readily pulled upwardly from the tank when not in use, and this is particularly convenient for packaging the tank in a carton for shipment and sale. There is also an advantage in operation, in that the projectiles can be seen as they are loaded and are readily superposed in parallel relation, whereas if dropped into an enclosed magazine, they may tend to fall in upright position, thus spoiling proper loading of the magazine.

The gun G is preferably made of a single piece of sheet metal. Its construction is best shown in Fig. 8. A single piece of sheet metal is turned downwardly at its edges to form a cylindrical barrel 50. The edges preferably abut at the breech portion, as is indicated at 14. In this way the desired slot for passage of the ejection spring is provided. The breech portion of the gun is left open at the top to receive the projectiles fed downwardly from above. For this purpose the walls 52 are turned outwardly to vertical or even slightly divergent position. The central parts of these walls are struck outwardly to provide the apertured ears 44 previously referred to which, in turn, receive the lower ends of the magazine. Lugs 54 are preferably struck inwardly behind the open walls 52 and act as a stop to prevent rearward movement of the lowermost projectile. This is desirable because the gun is elevated somewhat and may be further elevated as the tank climbs up an obstacle. The inwardly turned lugs 54 preferably do not abut, and instead a space is left therebetween for free passage of the ejection spring. A plate 56 may be formed integrally with and turned upwardly from the gun at its rear end. This plate is preferably provided with tongues 58 which are received in mating slots in the top wall of the tank body, as is clearly shown in Figs. 3, 4, and 5.

The tank body B is formed of sheet metal and may be assembled in any conventional manner. In the specific case here shown, there are two side plates 60 (Figs. 1 and 2) spaced apart

by a piece of sheet metal 62 bent to form the top, front, and rear walls of the tank. These parts are assembled by conventional tongue and slot connections, some of which are indicated at 64 in Fig. 1. A simulated main turret 66 may be added at the top of the tank while simulated side turrets 68 are added to the sides of the tank. The main turret 66 as well as the top wall 62 of the tank are cut away for passage of the projectiles. A part of top wall 62 may be bent inwardly as shown at 63 (Fig. 3) to help guide the projectiles into the breech portion of the gun. The top wall 62 is preferably notched at 65 (see Figs. 6 and 7) to receive the wires of the magazine, thus holding the magazine in upright position, because the lower ends are received in the ears 44, while intermediate parts are received in the notches 65. To remove the empty magazine from the tank, it is merely necessary to elevate the same slightly so as to withdraw the ends 42 from the ears 44, and to thereupon squeeze the sides of the magazine together while continuing to withdraw the magazine upwardly out of the tank body.

The tank is driven by a spring motor having a main winding stem 18. This extends all the way through the tank from one side to the other and may be bent at one end to form an integral winding key 70 (Fig. 2). It may be made of square rod, as shown. A main spring 74 (Fig. 6) is wound spirally around the winding stem 18, its inner end being connected to a suitable hub 76, while its outer end is connected to a part of the tank body. The winding stem 18 carries a main driving gear 78 (Fig. 3) which meshes with a pinion 80 on the front axle 82 of the tank. This axle extends all the way through the tank and carries the front wheels 84, the latter being keyed to the axle. The rear wheels 86 are carried on a rear axle 88 which passes through the tank body, but is not geared to the motor.

Suitable governor mechanism may be provided, if desired, to limit the unwinding speed of the motor. Specifically, in the present case, I provide an unbalanced or eccentric weight 90 which is rotated at high speed by means of a suitable train of step-up gearing. Specifically, the main gear 78 meshes with a pinion 92 carrying a gear 94 which meshes with a pinion 96 carrying a gear 98 which meshes with a pinion 100 on the governor shaft. The starting and stopping of the tank may be controlled by a lever 102 pivoted at 104 and having a brake 106 which may be moved into or out of the path of the eccentric weight 90.

The step-up gearing and governor described above are carried in a gear box formed by side plates 108 and 110 (Fig. 6), the side plate 108 having spacing walls 112 bent sidewardly therefrom, and the walls being secured together by appropriate tongue and slot connections 114.

In order to provide an adequately powerful torque for the operation of the ejection spring, the wheel 16 which operates the ejection spring, is preferably mounted directly on the main stem 18 of the motor. This provides a sufficient number of shots for the gun, because with a relatively large cannon firing relatively large projectiles, an appreciable delay between successive shots is desirable and realistic. In order to prevent operation of the driving wheels and of the ejection spring during winding of the spring motor, I provide duplicate ratchet mechanisms. One of these is associated with the main gear 78. The

other is associated with the wheel 16. The latter is shown in Figs. 3 and 6, and comprises a toothed ratchet wheel 118 mounted on main stem 18 and cooperating with a dog 120 pivotally mounted at 122 on wheel 16 and acted on by a spring wire 124 carried on wheel 16. During winding of the spring motor the crank pin 22 reaches a position of rest in the acutely bent part of the spring S, as is shown in Fig. 3, thus preventing rotation of the crank disc. The other ratchet mechanism is shown in Fig. 6 and comprises a ratchet wheel 126 identical with the ratchet wheel 118 and cooperating with a similar dog, the said dog being carried on the face of main gear 78 in the same manner that the dog 120 is carried on the face of crank 16. It will be evident that with this arrangement the spring motor may be wound without rotating either the main gear 78 or the crank disc 16.

A modified form of ejector mechanism for the gun is shown in Figs. 10 and 11. In this arrangement the spring is a flat steel spring 130 having its lower end 132 fixed in position beneath the gun and beneath the shaft 18, much as was previously described. The upper end is narrowed to form a thin head 134 adapted to move in the slot at the breech of the gun. The spring is slotted or cut away at 136. The spring is operated on by a wheel 138 carried on shaft 18, but in this case the wheel 138 is a cam rather than a crank. Rotation of the cam bends the spring 130 rearwardly until the point 140 of the cam reaches the upper end of the slot 136 whereupon the spring flies forwardly. A noise simulating the firing of the gun is produced when the spring hits the small radius part 142 of the cam.

The cam 138 is preferably provided with ratchet mechanism similar to that previously described and including a ratchet wheel cooperating with a dog 120 acted on by a spring 124. It will be evident that with this arrangement the operation will be as previously described, and further that the shaft 18 will not interfere with the desired range of movement of the ejection spring.

It is believed that the construction and operation, as well as the advantages of my improved toy gun and tank will be apparent from the foregoing detailed description. The magazine is readily loaded with projectiles, and these cannot change from the desired parallel relation. The tank is wound while the motor is held against unwinding by the starting lever. As the tank is wound there is no movement of the caterpillar tread nor of the gun mechanism. When the starting lever is released the tank is propelled forwardly with a powerful drive enabling it to surmount steep obstacles. As it proceeds the projectiles are fired forcibly from the gun at well spaced intervals. Each discharge is accompanied by a percussive noise simulating the firing of a cannon. The ejector mechanism is simple and rugged in character and provides a forcible ejection of the projectile. Adequate torque for the same is provided by using the slow speed main stem of the motor. The magazine is simple and inexpensive in construction, effective in appearance, and is readily removed for compact packaging of the tank during shipment and sale.

It will be apparent that while I have shown and described my invention in preferred forms, many changes and modifications may be made in the structures disclosed, without departing from the spirit of the invention as sought to be defined in the following claims.

I claim:

1. A toy comprising a spring motor having a shaft extending thereacross, a gun extending transversely over said shaft, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath said gun and shaft, and a spring-tensioning wheel mounted on the shaft and arranged to bend the ejector spring rearwardly and to abruptly release the same for forward movement in order to eject the lowermost projectile from the gun, said wheel and ejector spring being so relatively shaped that the shaft of the motor does not interfere with the desired movement of the spring.

2. A toy tank comprising a tank body, wheels, endless treads around said wheels, a spring motor having a shaft extending transversely through the tank body, gearing between said shaft and said wheels, a gun projecting forwardly from said tank over said shaft, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted therebeneath, and a spring-tensioning wheel mounted on the shaft and arranged to bend the ejector spring rearwardly and to abruptly release the same for forward movement in order to eject the lowermost projectile from the gun, said wheel and ejector spring being so relatively shaped that the shaft of the motor does not interfere with the desired movement of the spring.

3. A toy gun comprising a spring motor having a shaft extending thereacross, a gun extending transversely over said shaft, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring formed of a piece of bent spring wire having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath said gun and shaft, and a spring-tensioning crank disc mounted on said main stem and having a crank pin for operating on said spring, said spring being so bent with relation to the crank pin that it is moved rearwardly and abruptly released for forward movement to eject the lowermost projectile through the gun, the spring being so bent and located that the shaft carrying the crank disc does not interfere with the desired movement of the spring.

4. A toy tank comprising a toy body, wheels, endless treads around said wheels, a spring motor having a shaft extending transversely through the tank body, gearing between said shaft and said wheels, a gun projecting forwardly from said tank over said shaft, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring formed of a piece of bent spring wire having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath the gun and the shaft, and a spring-tensioning crank disc mounted on said shaft and having a crank pin for operating on said spring, said spring being so bent with relation to the crank pin that it is moved rearwardly and abruptly released for forward movement to eject the lowermost projectile through the gun, the spring being so bent and located that the shaft carrying the crank disc does not

interfere with the desired movement of the spring.

5. A toy comprising a spring motor having a shaft, a gun, a magazine holding a series of projectiles to be fed into the breech portion of the gun, an ejector spring for ejecting the projectiles from the gun, a spring-tensioning wheel mounted on said shaft for bending the spring rearwardly and abruptly releasing the same, and ratchet means between said shaft and said wheel whereby said motor may be wound without operating on the gun.

6. A toy tank comprising a tank body, wheels, endless treads around said wheels, a spring motor having a main stem extending transversely through the tank body, a main spring connected thereto, gearing between said main stem and said wheels, ratchet mechanism between said main stem and said gearing whereby the main spring may be wound without rotating the gearing and the wheels, a gun projecting from said tank, a magazine holding a series of projectiles to be fed into the breech portion of the gun, an ejector spring for ejecting the projectiles from the gun, a spring-tensioning wheel mounted on said main stem for bending the spring rearwardly and abruptly releasing the same, and a second ratchet means between said main stem and said wheel, whereby said motor may be wound without operating on the gun.

7. A toy comprising a spring motor having a shaft extending thereacross, a gun disposed transversely over said shaft, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath said gun and shaft, a spring-tensioning wheel mounted on said shaft for moving said ejector spring rearwardly and abruptly releasing the same for forward movement to eject the lowermost projectile through a gun, the spring and wheel being so relatively shaped that the shaft carrying the wheel does not interfere with the desired movement of the spring, and ratchet means between said shaft and wheel so that the motor may be wound without operating on the gun.

8. A toy tank comprising a tank body, wheels, endless treads around said wheels, a spring motor having a main stem extending transversely through the tank body, a main spring connected to the stem, gearing between said main stem and said wheels, ratchet mechanism between said main stem and said gearing whereby the main spring may be wound without rotating the gearing and the wheels, a gun projecting from said tank over said main stem, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath the gun and main stem, a spring-tensioning wheel mounted on said main stem for moving said ejector spring rearwardly and abruptly releasing the same for forward movement to eject the lowermost projectile through a gun, the spring and wheel being so relatively shaped that the main stem carrying the wheel does not interfere with the desired movement of the spring, and ratchet means between said main stem and said wheel so that the motor may be wound without operating the same.

9. A toy comprising a spring motor having a main stem, a gun disposed transversely over said

main stem, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring formed of a piece of bent spring wire having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath the gun and main stem, a spring-tensioning crank disk mounted on said main stem and having a crank pin for operating on said spring, said spring being so bent with relation to the crank pin that it is moved rearwardly and abruptly released for forward movement to eject the lowermost projectile through a gun, the spring being so bent and located that the main stem carrying the crank disc does not interfere with the desired movement of the spring, and ratchet means between said main stem and said crank disc so that the motor may be wound without operating on the gun.

10. A toy tank comprising a tank body, wheels, endless treads around said wheels, a spring motor having a main stem extending transversely through the tank body, a main spring connected to said stem, gearing between said main stem and said wheels, ratchet mechanism between said main stem and said gearing whereby the spiral spring may be wound without rotating the gearing and the wheels, a gun projecting from said tank over said main stem, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring formed of a piece of bent spring wire having its upper end movable in a slot in the breech portion of the gun and having its lower end fixedly mounted beneath the gun and main stem, a spring-tensioning crank disk mounted on said main stem and having a crank pin for operating on said spring, said spring being so bent with relation to the crank pin that it is moved rearwardly and abruptly released for forward movement to eject the lowermost projectile through a gun, the spring being so bent and located that the main stem carrying the crank disc does not interfere with the desired movement of the spring, and ratchet means between said main stem and said crank disc so that the motor may be wound without operating on the gun.

11. A toy gun, the breech portion of said gun being open on top, and a magazine extending upwardly over said gun, said magazine consisting of a piece of heavy bent wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly enough to clear the projectiles.

12. A toy tank comprising a tank body, wheels, endless treads around said wheels, a gun projecting from said tank, the breech portion of said gun being open on top, and a magazine extending upwardly over said gun, said magazine consisting of a piece of heavy bent wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly enough to clear the projectiles, means to eject the lowermost projectile from the gun, and a motor for driving the wheels of the tank and the ejection mechanism of the gun.

13. A toy gun, the breech portion of said gun being open on top, and a magazine extending up-

wardly over said gun, said magazine consisting of a piece of heavy bent guide wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly enough to clear the projectiles, said gun being made of a single piece of sheet metal bent cylindrically to form the gun barrel, the breech portion having upwardly projecting sides to freely receive projectiles fed from above, outwardly projecting ears to receive the lower ends of the magazine guide wire, and an inwardly projecting stop to prevent rearward movement of the projectiles.

14. A toy tank comprising a tank body, wheels, endless treads around said wheels, a gun projecting from said tank, the breech portion of said gun being open on top, and a magazine extending upwardly over said gun, said magazine consisting of a piece of heavy bent guide wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly enough to clear the projectiles, said gun being made of a single piece of sheet metal bent cylindrically to form the gun barrel, the breech portion having upwardly projecting sides to freely receive projectiles fed from above, outwardly projecting ears to receive the lower ends of the magazine guide wire, an inwardly projecting stop to prevent rearward movement of the projectiles, and a cross plate at the rear end of the gun for connection to the tank body for means of tongue and slot connections, means to eject the lowermost projectile from the gun, and a motor for driving the wheels of the tank and the ejection mechanism of the gun.

15. A toy gun, the breech portion of said gun being open on top, a magazine extending upwardly from said gun, means detachably mounting said magazine in position whereby it may be removed for more compactly packaging the gun, ejection mechanism for the gun, and means for operating the ejection mechanism.

16. A toy tank comprising a tank body, wheels, endless treads around said wheels, a gun projecting from said tank body, the breech portion of said gun being open on top, a magazine extending upwardly from said gun, means detachably mounting said magazine in position whereby it may be removed for more compactly packaging the tank, ejection mechanism for the gun, and a motor in said tank body for operating both the wheels of the tank and the ejection mechanism of the gun.

17. A toy gun, the breech portion of said gun being open on top, a magazine extending upwardly from said gun, said magazine consisting of a piece of bent wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly far enough to clear the projectiles and being detachably received on the gun for more compact packaging of the same, ejection mechanism for the gun, and means for operating the

ejection mechanism.

18. A toy tank comprising a tank body, wheels, endless treads around said wheels, a gun projecting from said tank body, the breech portion of said gun being open on top, a magazine extending upwardly from the tank body over said gun, said magazine consisting of a piece of bent wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly enough to clear the projectiles, said magazine being detachably mounted on the tank for more compact packaging of the same, ejection mechanism for the gun, and a motor for driving the wheels of the tank and the ejection mechanism of the gun.

19. A toy tank comprising a tank body, wheels, endless treads around said wheels, a gun projecting from said tank body, the breech portion of said gun being open on top, a magazine extending upwardly from the tank body over said gun, said magazine consisting of a piece of bent wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly enough to clear the projectiles, the open breech portion of the gun having outwardly turned ears with apertures dimensioned to receive the lower ends of the legs of the magazine, the top of the tank body over the breech portion of the gun being cut away for passage of the projectiles, said cut-away portion being notched to receive the wire magazine, said magazine being removable by moving the same upwardly and squeezing the legs together, for more compact packaging of the toy tank, ejection mechanism for the gun, and a motor for driving the wheels of the tank and the ejection mechanism of the gun.

20. A toy gun, the breech portion of said gun being open on top, and a magazine extending upwardly over said gun, said magazine consisting of a piece of heavy bent guide wire of inverted U-shape, the upper end being curved on a radius large enough to receive cylindrical projectiles for use in the gun, the parallel legs therebeneath being disposed somewhat closer together and dimensioned to fit in circumferential grooves on the projectiles, the lower ends of the legs being bent outwardly to clear the projectiles, the breech portion of the gun being open at the top to freely receive projectiles fed from above, and having mating holes to removably receive the lower ends of the magazine guide wire.

21. A toy comprising a spring motor having a shaft extending thereacross, a gun disposed transversely over said shaft, a magazine for supporting a series of projectiles over the breech portion of said gun, an ejector spring having its upper end movable in a slot in the breech portion of the gun and having its lower end mounted beneath said gun, a spring-tensioning wheel mounted on said shaft for rotation thereby, said wheel having a part for engaging and bearing against said ejector spring, and means whereby said part bends the ejector spring rearwardly and

abruptly releases the same as the motor unwinds, but does not bend said ejector spring as the motor is being wound, the spring being so shaped that the shaft carrying the wheel does not interfere with the desired movement of the spring.

22. A toy tank comprising a tank body, wheels, endless treads around said wheels, a spring motor having a main stem extending transversely through the tank body, a main spring connected to the stem, gearing between said main stem and said wheels, ratchet mechanism between said main stem and said gearing whereby the main spring may be wound without rotating the gearing and the wheels, a gun projecting from said tank over said main stem, a magazine for supporting a series of projectiles over the breech

portion of said gun, an ejector spring having its upper end movable in a slot in the breech portion of the gun and having its lower end mounted beneath the gun, a spring-tensioning wheel mounted on said main stem for rotation thereby, said wheel having a part for engaging and bearing against said ejector spring, and means whereby said part bends the ejector spring rearwardly and abruptly releases the same as the motor unwinds, but does not bend said ejector spring as the motor is being wound, the spring being so shaped that the main stem carrying the wheel does not interfere with the desired movement of the spring.

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