Oct. 7, 1952 E. P. DOW 2,613,080

KICKING ANIMAL TARGET

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Fig. 1.

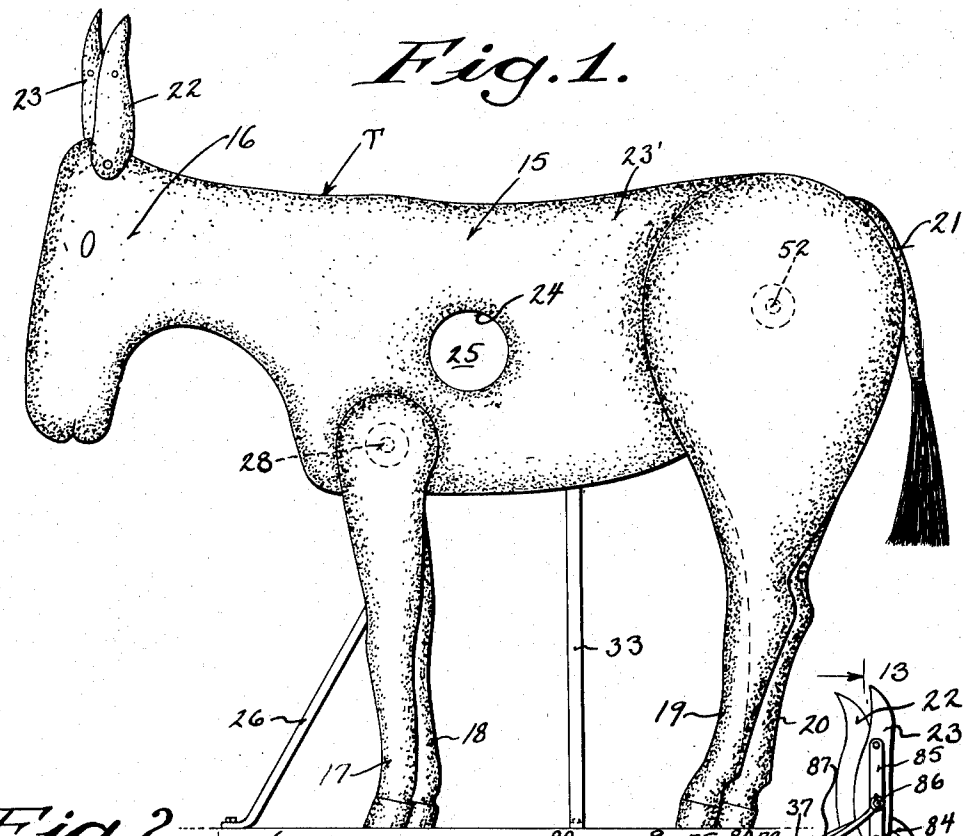
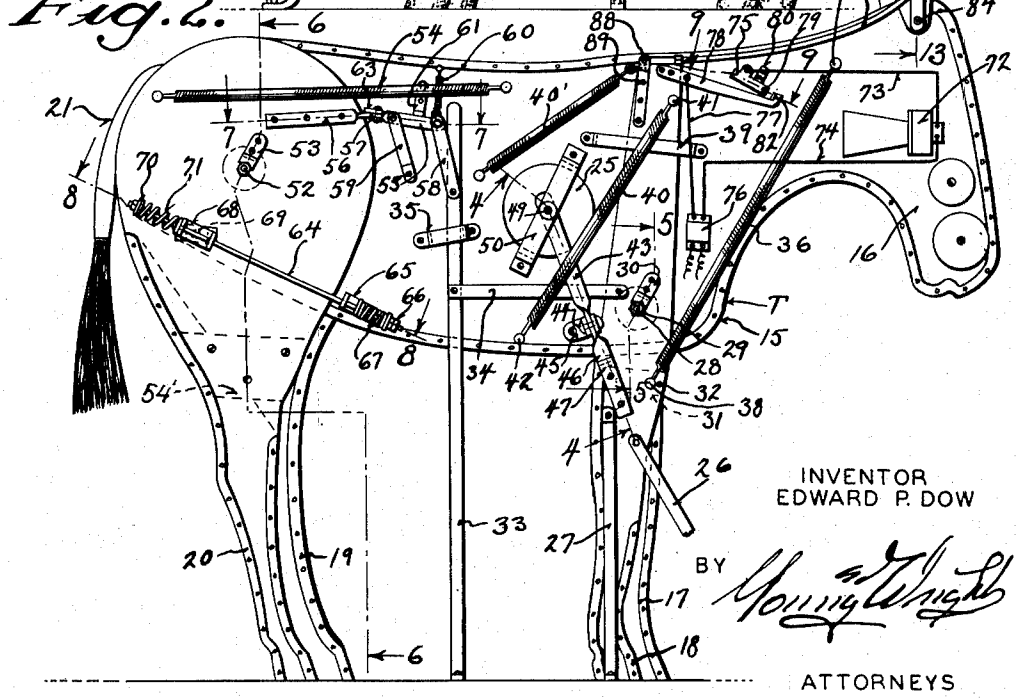


Fig. 2.



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Fig. 3.

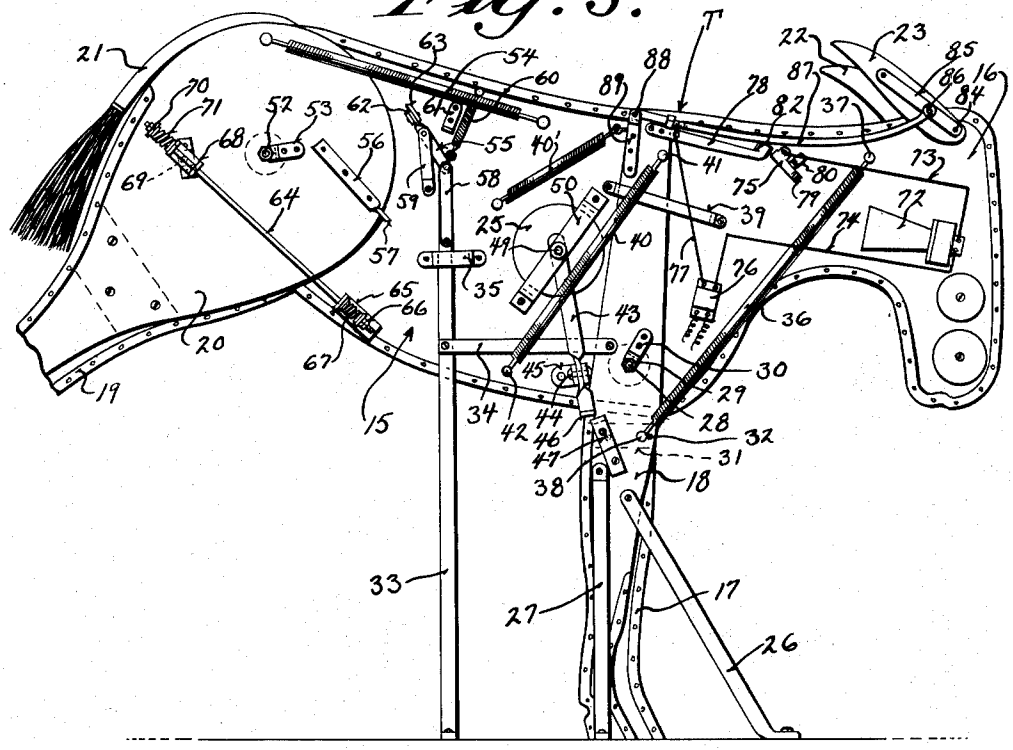


Fig. 4.

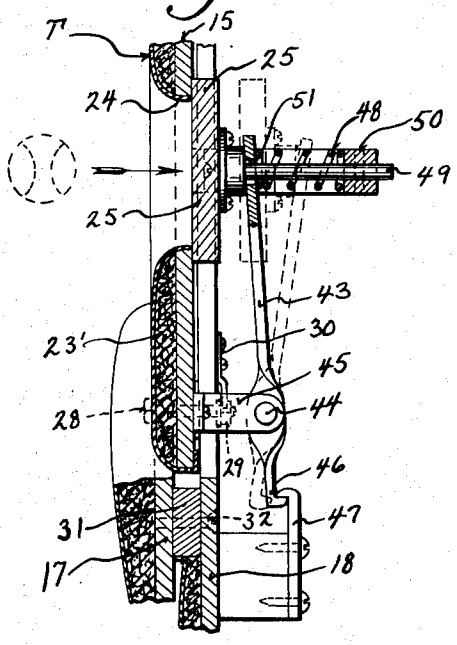
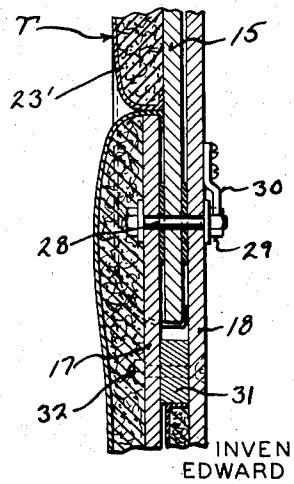


Fig. 5.



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Fig. 6.

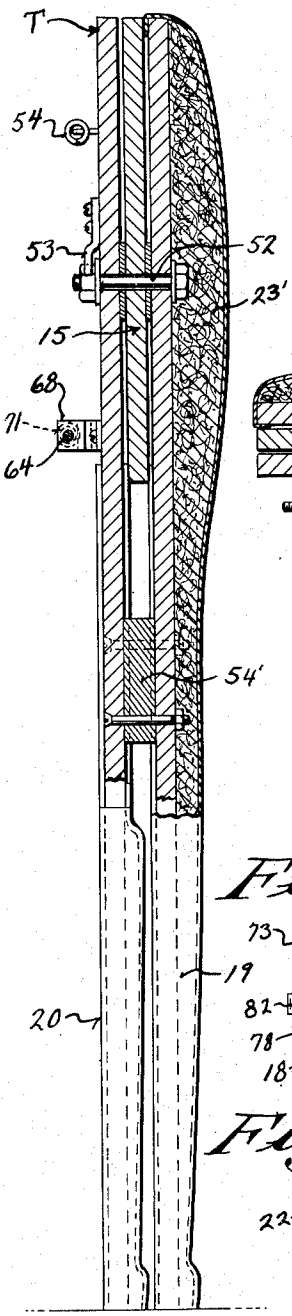


Fig. 7.

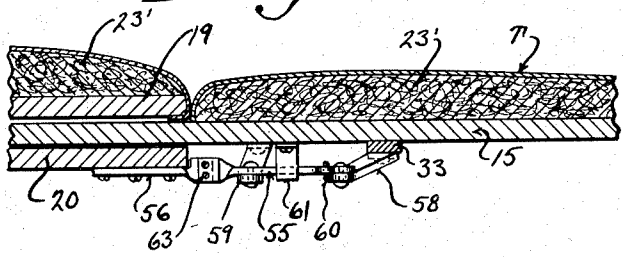


Fig. 8.

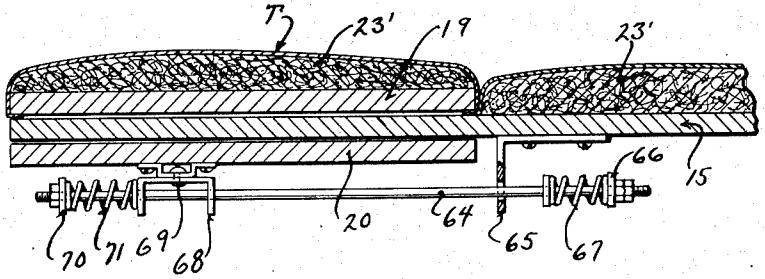


Fig. 9.

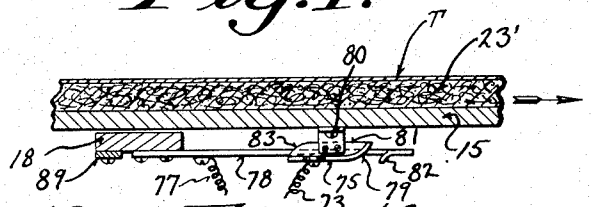


Fig. 12.

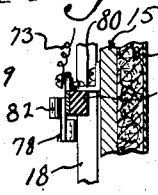


Fig. 10.

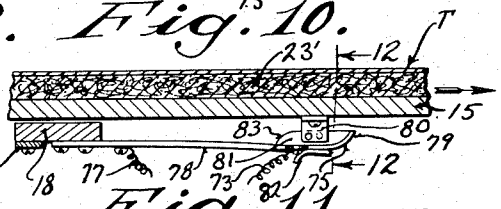


Fig. 11.

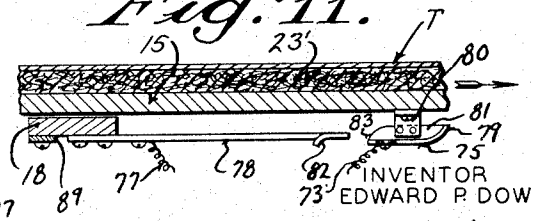
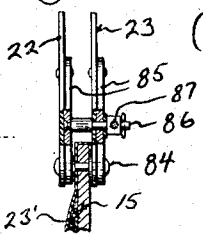


Fig. 13.



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KICKING ANIMAL TARGET

Edward P. Dow, Manitowoc, Wis.

Application February 21, 1951, Serial No. 211,987

3 Claims. (Cl. 273—102.2)

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This invention appertains to amusement devices, and more particularly to a novel animated target.

One of the primary objects of my invention, is to provide a target shaped to simulate an animal, with novel means for setting the target in motion when the target plate, i. e., bull's eye, is forcibly struck by a missile.

Another salient object of my invention is to provide an animated target shaped to simulate a mule, with means for automatically swinging the body upward at its rear end and immediately thereafter swinging the legs upwardly and rearwardly, whereby to closely copy the antics of a live, kicking mule, when the target plate is struck by a baseball or similar missile.

A further object of my invention is to provide a flexible tail carried by the rear quarters of the target so that upon the upward kicking of the legs the tail will swing free upward therewith.

A further important object of my invention is the provision of means for automatically flapping the ears of the target during the upward swinging movement of the body of the target.

A still further important object of my invention is to provide means for automatically sounding an audible signal when the target plate is struck, the signal being in the form of a horn to imitate the braying of a mule.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described and claimed, and illustrated in the accompanying drawings, in which drawings,

Figure 1 is a front elevational view of my improved target.

Figure 2 is a rear elevational view thereof.

Figure 3 is a view similar to Figure 2, but showing the target after being struck by a missile and the parts to simulate a kicking mule.

Figure 4 is an enlarged fragmentary detail sectional view, taken on the line 4—4 of Figure 2, looking in the direction of the arrows, illustrating the target plate and the release catch actuated thereby.

Figure 5 is a detail, fragmentary sectional view taken on the line 5—5 of Figure 2, looking in the direction of the arrows, illustrating the mounting of the body of the mule on the main support.

Figure 6 is a vertical sectional view taken on the line 6—6 of Figure 2, looking in the direction of the arrows, illustrating the mounting of the swinging rear legs on the body.

Figure 7 is a fragmentary detail horizontal sectional view, taken on the line 7—7 of Figure 2, looking in the direction of the arrows, illustrating the release mechanism for the swinging legs after limited swinging movement of the body.

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Figure 8 is a detail sectional view taken on the line 8—8 of Figure 2, looking in the direction of the arrows, illustrating the snubber and shock absorbing mechanism utilized for limiting the upward swinging movement of the rear legs of the target.

Figure 9 is a detail sectional view, taken on the line 9—9 of Figure 2, looking in the direction of the arrows, illustrating the switch mechanism employed for closing the circuit through the electric horn, or other audible signal.

Figure 10 is a view similar to Figure 9, and showing the engagement of the contacts for closing the circuit upon swinging movement of the body.

Figure 11 is a view similar to Figures 9 and 10, but showing the position of the movable contact after the completion of the swinging movement of the body.

Figure 12 is a detail vertical sectional view taken on the line 12—12 of Figure 10, showing the arrangement and construction of the contacts.

Figure 13 is a detail vertical sectional view, taken on the line 13—13 of Figure 2, looking in the direction of the arrows, illustrating the mounting and construction of the ears of the target.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter T generally indicates my animated target. The same in its preferred form takes the shape of a mule, and hence includes a body 15 and head 16 formed integral with one another; front legs 17 and 18, and rear legs 19 and 20. The target is provided with suitable appendages such as a flexible tail 21 and ears 22 and 23. The body 15 and its head 16, the legs 17 and 18 and the legs 19 and 20 have their outer exposed surfaces suitably upholstered, as at 23', to give a rounded, pleasing effect to the entire target. The body 15, at the desired point is provided with a target opening 24 of a certain size in rear of which is positioned the movable target plate 25, which will be later described in detail.

The body 15 is mounted for swinging movement on the legs 17 and 18 and hence these legs are rigidly secured to a suitable support against movement for effectively carrying the body. As illustrated, braces 26 and 27 are secured to the

legs and to a floor, or other base. Attention is directed to the fact that the inner front leg 18 extends a material distance above the outer front leg 17 across the inner surface of the body 15. A pivot bolt 28 is carried by the legs 17 and 18 and the front portion of the body 15 is received between the legs 17 and 18 and is mounted for rocking movement upon the pivot bolt. The nut 29 for the pivot bolt can be held against accidental turning movement by a bracket 30, which is secured to the leg 18. The bracket 30 is provided with a resilient arm for engaging and holding the nut. By referring to Figure 5, it can be seen that the legs 17 and 18 are rigidly connected together by the use of suitable blocks 31 and bolts 32. Rearward of the front legs 17 and 18 and forwardly of the rear legs 19 and 20, is a supporting standard 33, which is rigidly secured to the floor, or other supporting base, and this standard extends up over the inner face of the body 15, and is rigidly connected to the inner front leg 18, by a brace strap 34.

From the description so far, it can be seen that the body 15 is mounted for free swinging movement on its pivot bolt 28. The body is guided on the standard 33 by a guide loop 35, rigidly secured to the body 15, and this loop is of a sufficient size to allow movement of the body upward along the standard and laterally of the standard.

A relatively strong coil spring 36, is provided for normally swinging the body 15 on the legs, and one end of the spring is connected, as at 37, to the body adjacent to the head 16 forwardly of the legs 17 and 18. The lower end of the spring is secured, as at 38, to the rigid leg 18 and hence the spring 36 functions to pull down on the front of the body and swing up the rear end of the body. The guide loop 35 functions to limit the upward rear swinging movement of the body and if preferred, I can provide another guide loop 39, rigidly carried by the body and which receives the upper end of the inner leg 18. This loop 39 effectively guides the body in its swinging movement and limits the swinging thereof. If desired, a second contractile coil spring 40 can be employed for cooperation with the spring 36, to swing the body. The upper end of the spring 40 is secured, as at 41, to the upper end of the inner leg 18, and the lower end of the spring is connected as at 42 to the body 15 rearwardly of the pivot point of the body. An additional contractile coil spring 40' can also be employed for insuring the proper swinging of the body and this spring is arranged adjacent to the upper end of the body. The extreme upper end of the spring is connected to the leg 18 and the lower end of the spring is connected to the body.

The body is normally held in its lowered position against swinging movement, as shown in Figures 1 and 2, by a pivot latch lever 43. This lever is rockably mounted adjacent to its lower end on a pivot pin 44, carried by a bracket 45, rigidly mounted upon the body 15. The extreme lower end of the lever is provided with a hooked nose 46 for interengagement with a keeper 47, which is rigidly secured to the immovable leg 18. Hence when the latch lever is connected with its keeper, swinging movement of the body under tension of the springs 36, 40 and 40' is prevented. An expansion spring 48 is employed for normally holding the lever in its latched position, and this spring also has another function, which will now be brought out.

The target plate 25, as heretofore stated, is disposed directly in rear of the opening 24 and is mounted for rearward sliding movement under the impact of a baseball or the like. To facilitate the sliding of the target plate, the same is provided with a rearwardly extending guide rod 49, which is slidably mounted in a U-shaped bracket 50, rigidly connected to the body 15. The guide rod 49, also extends through an opening 51, formed in the upper end of the latch lever 43. The expansion spring 48 is coiled about the rod 49 and one end of the same engages the bracket 50 and the other end of the same presses upon the latch lever and forces the latch lever against the target plate 25, and holds the target plate against the body. As soon as the target plate is forcibly struck, the same will move inwardly against tension of the spring 48 and rock the lever 43, and release the same from its keeper 47 and at this time the body will swing in an upward direction at its rear end.

The rear legs 19 and 20 are mounted for swinging movement on the body 15 and the body 15 is positioned between the upper ends of the legs and the body and the legs are connected by a pivot bolt 52, on which the legs swing. The bolt is held in position by a nut and the nut in turn is held against the accidental rotation thereof by a resilient arm 53 carried by the leg. A relatively strong contractile spring 54 is utilized for normally swinging the legs upwardly to a kicking position, and one end of the spring is connected to the body 15, and the other end of the spring is connected to the leg 20 above the pivot bolt 52. The legs 19 and 20 are rigidly connected together for synchronous movement by a brace block 54' disposed below the body 15, as is best shown in Figure 6. The tail 21, is formed from flexible material, and is carried by the legs, and as these legs are swung upwardly under the influence of the spring 54, the flexible tail is also thrown up imparting a lifelike motion to the target.

Means is provided for latching the legs 19 and 20 in their lowered position against swinging movement, as shown in Figures 1 and 2, and this latch construction is such that upon release of the body 15 by its latching lever 43, and the swinging movement of the body, the legs 19 and 20 will be released for the kicking action. This latch mechanism includes a swinging latch lever 55 for interengagement with a latch keeper arm 56 rigidly carried by the leg 20 above and forwardly of the pivot bolt 52, and this latch keeper arm has a beveled face 57 which projects forwardly beyond the leg 20. The latch lever 55 is carried by a pair of swinging links 58 and 59. The inner end of the lever 55 is pivotally connected to the upper end of the link 58, and the lower end of this link is pivotally connected to the rigid standard 33. The swinging link 59 is pivotally connected to the body 15 of the target and the upper end of this link 59 is pivotally connected to the latch lever 55, adjacent to the outer or latch end of said lever. A light contractile coil spring 60 is utilized for normally holding the latch lever 55 and the links 58 and 59 up against downward collapsing movement and against a stop bracket 61 secured to the body 15. It is to be noted that the light spring 60 is connected to the lever 55, adjacent to the point of connection of the lever with the link 58. The outer latch end of the latch lever 55, is provided with a beveled face 62, which corresponds to the beveled face 57 of the keeper arm 56 and the latch end of the lever is provided with a stop plate 63.

When the parts are in their inactive position, as shown in Figures 2 and 7, the latch lever 55 is

swung down so as to permit the interengagement of the beveled faces 57 and 62 and the stop plate 63 functions to position these faces relative to one another and swinging movement of the legs 19 and 20 is prevented. The beveled face 62 of the latch lever corresponds to the arc of swinging of the body 15 on its pivot bolt 28 and when the body is released by its latch lever 43 and the body swings up, the beveled face 62 will ride past the beveled face 57 of the keeper arm 56, allowing the legs to swing upwardly and rearwardly under the influence of the heavy spring 54, and it is to be noted, that the latch lever 55 is pushed upwardly, by the link 59 during the swinging of the body, due to the movement of the pivot point of the lever 59 toward the link 58 and the rigid standard 33, and the tension of the light spring 60 is overcome by the heavy springs 36, 40 and 40'.

When the target plate is struck and the body swings upwardly and the legs rearward, all of the mechanism can be quickly reset by merely pushing down on the legs 19 and 20 and then swinging down on the body and resetting the latch lever 55.

The legs 19 and 20 are swung back and up rather forcibly by the heavy spring 54, and consequently I prefer to use a snubber or shock absorber to cushion and limit this upward swinging movement. The snubber and cushioning mechanism includes a guide rod 64, arranged below the pivot bolt 52 and the forward end of the rod is slidably mounted in a guide bracket 65, rigidly secured to the body. The forward end of the guide rod is provided with a stop collar 66 and a cushion spring 67 is coiled about the rod and is adapted to engage the bracket 65 upon upward swinging movement of the legs 19 and 20, as shown in Figure 3. The opposite end of the rod slidably extends through a bracket 68, which is pivotally mounted, as at 69 on the leg 20, and the rear end of the guide rod is provided with a stop 70. A cushion spring 71 is coiled about the rod and is confined between the stop 70 and the swinging bracket 68 and functions to absorb shock, as the legs swing rearwardly, as shown in Figure 3.

It is also one of the features of the invention, to sound an audible alarm, when the target plate 25 is struck, and when the body 15 swings on its pivot 28. This audible signal is preferably in the nature of an electric horn 72 mounted upon the head 16 of the body. The horn is preferably pitched to somewhat imitate the braying of a mule. The terminals of the horn have connected thereto electric conducting wires 73 and 74 and the wire 73 leads to a contact 75 forming a part of a circuit closer, which will be later described. The wire 74 leads to a terminal of a transformer 76 and the other terminal of the transformer is connected by a wire 77 to a resilient contact arm 78, which will also be described. The transformer 76 can in turn be connected to any suitable source of electrical energy. The contact 75 is in the nature of a shoe and is provided with an arcuate leading face 79 and the contact is rigidly secured to the body 15 for movement therewith by means of a bracket 80. Fastened to the bracket and to the contact is a guide block 81 of insulation (see Figure 12).

The contact 78 is in the nature of a resilient arm and the inner end of the arm is rigidly connected to the upper end of the leg 18, and hence is held stationary by said leg. The extreme forward end of the resilient contact 78 is provided with an outwardly curved guide lip 82 for engagement with the arcuate face 79 of the contact shoe 75, as will now be described. By referring to Figures 2 and 9, it can be seen that when the body 15 is in its lowered normal position, the guide lip 82 of the resilient arm is positioned forwardly of the contact shoe 75 and out of engagement therewith. However, upon release of the body, the head portion 16 of the body will move forwardly and downwardly and the guide lip 82 will engage the curved surface 79 of the contact shoe and will ride over the surface thereof, as shown in Figure 10, establishing a circuit through the electric horn 72. Upon continued downward swinging movement of the head 16, the shoe 75 will ride past the resilient contact arm 78, and the circuit through the horn 72 will be broken (see Figure 11). Upon the resetting of the target and the upward swinging movement of the head 16, the contact shoe 75 will again move toward the resilient contact arm 78 and the curved lip 82 will engage the rear curved face 83 of the insulating block 81 and hence the resilient arm will be pressed inwardly and will not engage the electrical conducting portion of the contact shoe 75. Upon movement of the shoe 75 past the lip 82 (see Fig. 9), the resilient contact arm 78 will again spring outwardly and the device is ready for re-use.

In order to further add to the attractiveness of the device, I provide novel means for swinging or flapping the ears 22 and 23 of the body. The lower ends of the ears are rockably mounted upon a pivot 84 (see Figures 2, 3 and 13). The ears preferably include relatively stiff plates 85 and these plates are rigidly connected together by a cross pin 86. Rockably mounted on the pivot pin 86, is a forwardly extending rod 87. The rear end of the rod is pivotally connected as at 88 to a bracket 89 carried by the upper end of the leg 18. Upon swinging movement of the body on the pivot bolt 28, the head will move down and the ears 22 and 23 will be pulled rearwardly, as shown in Figure 3.

My amusement device is particularly adapted for use in amusement parks and the like, as a game of skill, and each customer is given a predetermined number of missiles such as baseballs and throws the balls at the target plate 25. Upon the striking of the target plate, the device is set in operation, as heretofore described.

From the foregoing description, it can be seen that I have provided an amusement device which will closely simulate the lifelike motion of a kicking mule upon the striking of a target plate.

Changes in details may be made without departing from the spirit or the scope of this invention, but what I claim as new is:

1. An animated amusement device simulating the appearance of a kicking mule comprising a pair of front rigidly supported legs, a body rockably mounted at its forward end on said legs, spring means normally tending to swing the body on the legs with the front end of the body in a lowered position and the rear end of the body in a raised position, said body having a target opening, a movable target plate in rear of said opening, a releasable latch normally holding the body in a normal lowered position against movement under said spring means, means operatively connecting the target plate to the latch for releasing the latch when said target plate is forcibly struck, rear legs pivotally carried by the rear end of the body, spring means normally urging the legs to a raised kicking position on said body, and cooperable latch means between the body and

said rear legs for normally holding the legs in a lowered position against the tension of said spring means when said body is in its normal lowered position, and said last named latch means including a rigid latch keeper bar secured to the rear legs above the pivot point thereof having a front beveled nose, a swinging latch lever, a swinging supporting link pivotally connected to the forward end of the latch lever and pivotally connected to a rigid part of the device, a lift link pivotally secured to the body and to the latch lever adjacent to its latch end, said latch end of the lever having a beveled nose for interlatching engagement with the beveled nose of the keeper bar and means normally holding the latch lever and the links in a predetermined raised position.

2. An animated amusement device simulating the appearance of a kicking mule comprising a pair of front rigidly supported legs, a body rockably mounted at its forward end on said legs, spring means normally tending to swing the body on the legs with the front end of the body in a lowered position and the rear end of the body in a raised position, said body having a target opening, a movable target plate in rear of said opening, a releasable latch normally holding the body in a normal lowered position against movement under said spring means, means operatively connecting the target plate to the latch for releasing the latch when said target plate is forcibly struck, rear legs pivotally carried by the rear end of the body, spring means normally urging the legs to a raised kicking position on said body, and cooperable latch means between the body and said rear legs for normally holding the legs in a lowered position against the tension of said spring means when said body is in its normal lowered position, said last named latch means including a rigid latch keeper bar secured to the rear legs above the pivot point thereof having a front beveled nose, a swinging latch lever, a swinging supporting link pivotally connected to the forward end of the latch lever and pivotally connected to a rigid part of the device, a lift link pivotally secured to the body and to the latch lever adjacent to its latch end, said latch end of the lever having a beveled nose for interlatching engagement with the beveled nose of the keeper bar and means normally holding the latch lever and the links in a predetermined raised position, and resilient means limiting the upward swinging movement of the legs.

3. An animated amusement device simulating the appearance of a kicking mule comprising a pair of front rigidly supported legs, a body rockably mounted at its forward end on said legs, spring means normally tending to swing the body on the legs with the front end of the body in a lowered position and the rear end of the body in a raised position, said body having a target opening, a movable target plate in rear of said opening, a releasable latch normally holding the body in a normal lowered position against movement under said spring means, means operatively connecting the target plate to the latch for releasing the latch when said target plate is forcibly struck, rear legs pivotally carried by the rear end of the body, spring means normally urging the legs to a raised kicking position on said body, and cooperable latch means between the body and said rear legs for normally holding the legs in a lowered position against the tension of said spring means when said body is in its normal lowered position, said last named latch means including a rigid latch keeper bar secured to the rear legs above the pivot point thereof having a front beveled nose, a swinging latch lever, a swinging supporting link pivotally connected to the forward end of the latch lever and pivotally connected to a rigid part of the device, a lift link pivotally secured to the body and to the latch lever adjacent to its latch end, said latch end of the lever having a beveled nose for interlatching engagement with the beveled nose of the keeper bar, means normally holding the latch lever and the links in a predetermined raised position, and a flexible tail carried by the upper end of said rear legs.

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