

Aug. 30, 1927.

1,640,954

C. J. MACH

MOVING TARGET GAME

Filed Dec. 8, 1926

2 Sheets-Sheet 1

Fig. 1

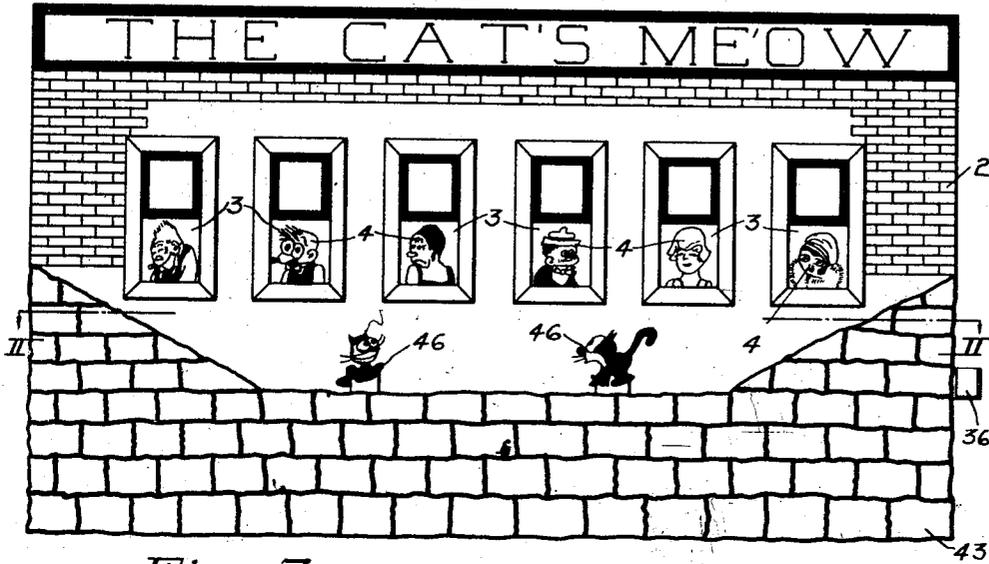


Fig. 3

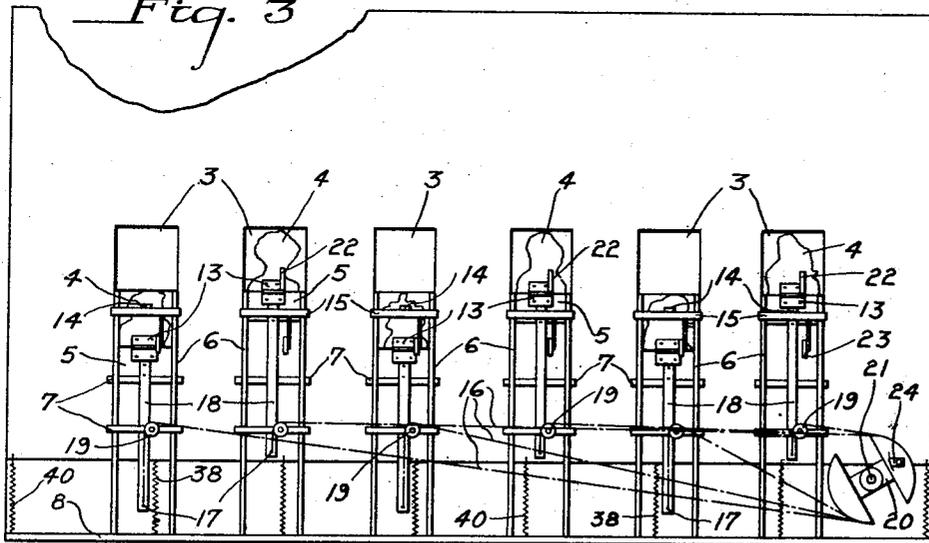
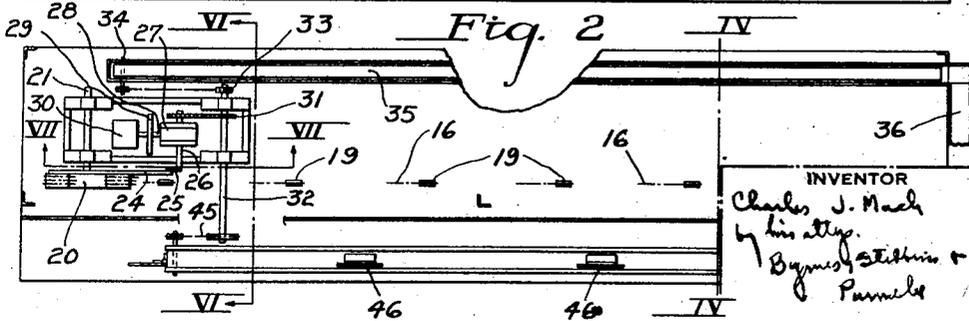


Fig. 2



INVENTOR
Charles J. Mach
by his attys.
Byrnes, Stebbins &
Parnell

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2 Sheets-Sheet 2

Fig. 5

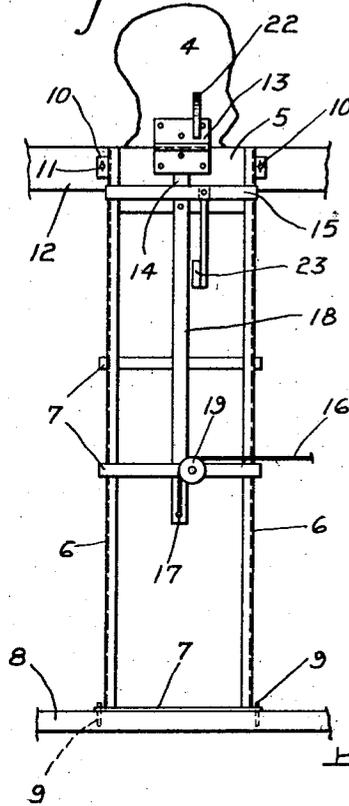


Fig. 4

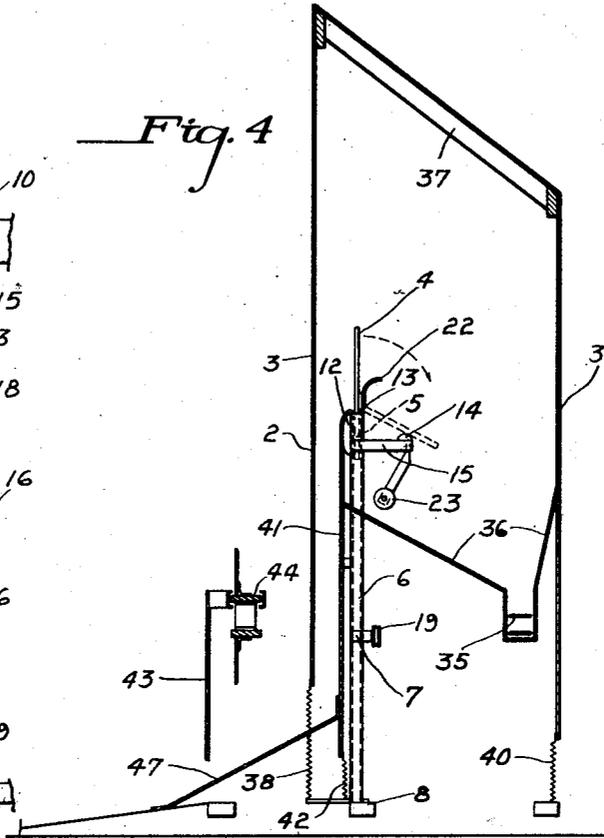


Fig. 6

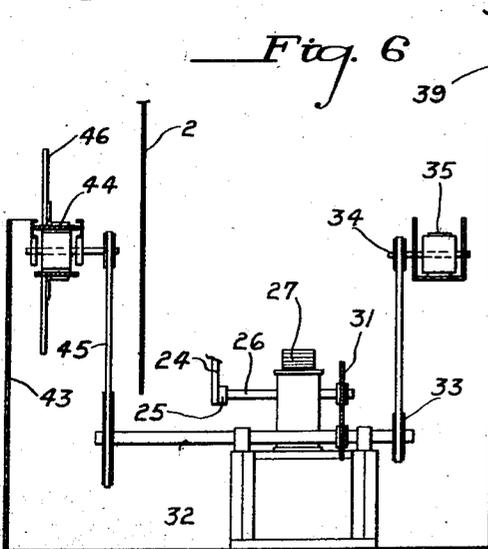
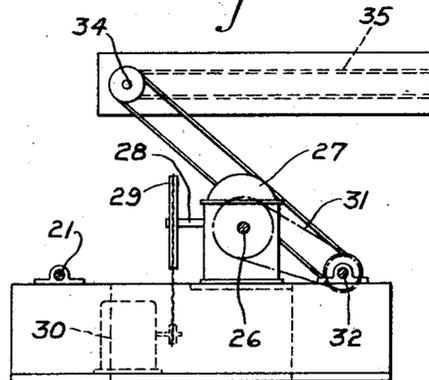


Fig. 7



INVENTOR

Charles J. Mach
by his atty,
Byrnes, Atkins, Parnely

UNITED STATES PATENT OFFICE.

CHARLES J. MACH, OF MIFFLIN TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA.

MOVING-TARGET GAME.

Application filed December 8, 1926. Serial No. 153,285.

This invention relates to game devices, and particularly a game device for use at amusement parks, carnivals and the like.

Ball throwing games of various sorts are always popular, and my particular construction provides one or more movable targets which materially increase the interest in the game.

I provide a screen having an opening therethrough, a target behind the screen and means for moving the target into and out of view through the openings. Preferably the target is mounted on a movable carrier, the target being so mounted that it may be displaced if struck. More specifically, I prefer to employ a reciprocating target carrier to which the target itself is hinged. The target comes into view through the opening, where it may be struck by a missile such as a ball. If it is properly hit, the target will fall away. The carrier is regularly moved toward and away from the opening, and resetting means is provided so that the target is again in proper position when it is next moved back to the opening. The resetting device is thus operated when the target is out of view.

I have found that unless the screen is yieldable it will soon be battered to pieces, and I therefore provide a fabric screen such as canvas. This screen is placed in front of the target apparatus, but is spaced therefrom and is preferably held taut by means of springs. A spacing of four inches is found to be sufficient to check a ball thrown against it before the screen is deflected enough to touch the target apparatus.

The targets may be so mounted that they move in one direction by gravity, and I provide a drum and cable connection for moving them in the other direction. Apparatus of this character is generally subjected to severe usage, and it is essential that it operate satisfactorily and continuously. The use of a shock absorbing means, such as a cable in the drive, eliminates a large amount of shock from the apparatus and also provides a flexible drive which is effective even though the apparatus may become misaligned.

I preferably employ several targets, and connect the driving cables to opposite sides of the drum. This balances the load on the driving motor.

Behind the targets I provide a missile

collecting trough and a conveyor belt which gathers the missiles collected in the trough. This belt is driven from the same motor as the one which actuates the targets.

In the accompanying drawings which illustrate the present preferred embodiment of my invention,

Figure 1 is a front elevation of a game device embodying six targets;

Figure 2 is a horizontal section taken on the line II—II of Figure 1;

Figure 3 is a rear view of the apparatus;

Figure 4 is a section taken on the line IV—IV of Figure 2;

Figure 5 is a rear view of one of the target frames;

Figure 6 is an end elevation of the driving mechanism, and

Figure 7 is a side elevation of the driving mechanism.

In the illustrated embodiment of the invention there is shown a canvas screen 2, having openings 3 therein. The screen is shown as painted to represent a brick wall, and the space around the openings 3 is painted to simulate windows in the wall. Targets 4, representing human heads, are so arranged that they are alternately in view through the openings 3. These targets are spaced back several inches from the canvas screen so that they appear to be figures inside of a building.

The targets 4 are each mounted on carriers 5. The carriers 5 slide up and down in channel shaped guides 6. The guides 6 are secured together by frame members 7 so that each guide and target is a separate unit. The target units are mounted on a base girder 8, having pins 9 therein which fit through openings in the foot portion of the guide members. The guide members are each provided with ears 10 near the top. Thumb screws 11 extend through openings in the ears and are threaded into a top girder 12. This arrangement makes it possible to set up or disassemble the apparatus very quickly.

The targets 4 are secured to the carriers 5 by a hinge 13. The hinge is located at the back of the target carrier 5 so that the target will ordinarily stand erect by its own weight. If, however, it is struck by a missile, such as a ball, it does not require a very great force to displace it. When the target is displaced, it falls back until it

strikes a bumper 14, which, in this form of the invention, is a block of rubber. The bumper is mounted on a frame member 15 secured to the guides 6.

6 The targets and their carriers are moved up and down, so as alternately to be in and out of view through the openings 3, by means of cables 16 which are deadened at 17 on struts 18 extending downwardly from the target carriers 5. Each cable passes over a sheave 19 and extends lengthwise of the game device to a drum member 20. This drum member is mounted on a shaft 21, and is arranged to be rocked back and forth. It has sheave portions, and the cables 16 pass around the sheave portions and are dead-ended. It will be noted from Figure 3 that alternate target carrier cables are secured to opposite sides of the drum member 20. This means that half of the targets will be in view and the other half will be out of view at one time. The crank 25 imparts a very desirable reciprocatory motion to the drum 20 and causes a momentary dwell of the targets when they are in view through the openings.

Assuming that a target has been hit and has been displaced to the dotted line position of Figure 4, it will be seen that as the carrier 5 is lowered, the target proper will rock around the rubber bumper 14. As the downward movement of the target carrier continues, an arm 22 on the back of the target engages a wheel 23 which acts as a resetting member. As shown in Figure 4, this wheel is secured to the frame 15 which extends rearwardly from the guide 6. The wheel 23 is effective for returning the target 4 to its upright position, and therefore, when the target carrier is again raised, the target will again be presented through the opening 3. The resetting occurs while the target is out of view, as is desirable in apparatus of this character.

45 The drum member 20 is given a reciprocating movement through a link 24 connected to a crank 25. The crank 25 is mounted on the shaft 26 of a speed reducing unit 27 of any desired type. The speed reducing unit 27 has a driving shaft 28 which carries a belt pulley 29 through which a connection is made to the driving motor 30.

A chain and sprocket drive 31 connects the shaft 26 with a shaft 32. This shaft in turn carries a sprocket 33 from which the head shaft 34 of a belt conveyor 35 is driven. The belt conveyor 35 is provided for collecting the missiles which are thrown through the openings 3. A trough 36, made of canvas, is provided back of the targets and the missiles are collected on the belt and delivered to an inclined return trough 36 by which the missiles, which are preferably base balls, are returned to the front of the game device.

65 Referring to Figure 4, it will be seen that

the entire target mechanism is spaced away from the screen 2. The screen depends from an upper frame-work 37 and is held taut by tension springs 38. It is found in practice that no matter how hard a ball is thrown against the canvas screen, this arrangement effectually protects the mechanism. I have tried screens made of wood, covered with layers of heavy felt, but these are soon battered to pieces, whereas the canvas screen stands up almost indefinitely.

At the rear of the apparatus there is provided a similar screen 39 which is also held taut by tension springs 40. This is to take care of the balls which are thrown through the openings 3. As an additional protection to the target mechanism, I provide a canvas screen 41 which is secured to the top cross beam 12 and is held taut by springs 42.

At the front of the apparatus there is provided a canvas screen 43 painted to represent a wall, and if desired, a conveyor 44, driven from the shaft 32 through a belt connection 45 may be provided adjacent the top of the screen 43. This conveyor may carry figures of animals as indicated at 46 in Figure 1. Any balls which hit the screen 2 or the screen 43 will fall on a canvas bottom piece 47 and will be returned to the front of the apparatus, as best shown in Figure 4.

I have illustrated the present preferred embodiment of my invention, but it will be understood that it is not limited to the form shown, as it may be otherwise embodied within the scope of the following claims.

I claim:—

1. In a game device, a guide, a target carrier movable in the guide, a target hinged on the carrier guide, an arm extending rearwardly from the target, a frame member extending rearwardly from the guide and adapted to limit movement of the target with respect to the carrier when the target is displaced, shock absorbing means for cushioning the blow when the target strikes the frame member, and resetting means on the frame member adapted to engage the arm.

2. In a game device, a guide, a target movable in the guide, a drum, a cable connection between the drum and the target, and drive means for imparting reciprocatory movement to the drum.

3. In a game device, a guide, a target movable in the guide, a drum, driving means therefor a cable connection between the drum and the target, a missile collecting trough behind the target, a missile collecting belt, and a driving connection between the driving means and the belt.

4. In a game device, a plurality of guides, targets movable in the guides, a drum, cable connections from opposite sides of the drum to different targets, and drive means for imparting a reciprocatory movement to the drum.

5. In a game device, a screen, a guide, a target movable in the guide, the guide being effective for causing movement of the target substantially parallel with the screen, and means for causing a substantially continuous reciprocating movement of the target so as to bring it alternately into and out of position to be struck, the target being so mounted that it will be displaced upon being struck and forced out of position to be again struck.

target movable in the guide, means for imparting a substantially continuous reciprocating movement of the target regardless of whether or not it is struck by a missile, the target being movable in substantial parallelism with the screen, the target being adapted to be displaced from its normal setting upon being struck by a missile, and re-setting means for the target.

In testimony whereof I have hereunto set my hand.

CHARLES J. MACH.