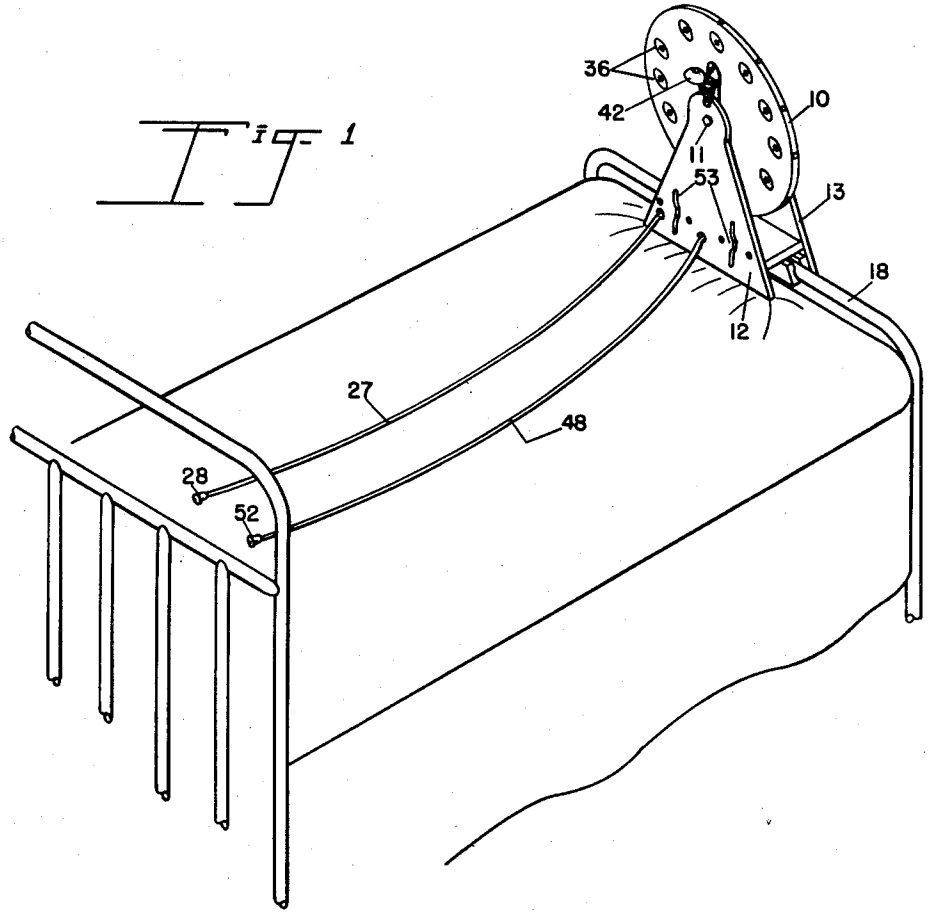
May 3, 1955 H. C. JOHNSON 2,707,634

TARGET WHEEL

Filed Oct. 20, 1952 2 Sheets-Sheet 1

Fig. 1



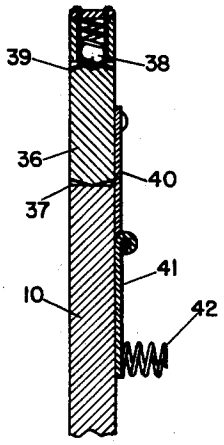


Fig. 2

INVENTOR.
HAROLD C. JOHNSON
BY Buckhorn and Cheatham
ATTORNEY

May 3, 1955 H. C. JOHNSON 2,707,634

TARGET WHEEL

Filed Oct. 20, 1952 2 Sheets-Sheet 2

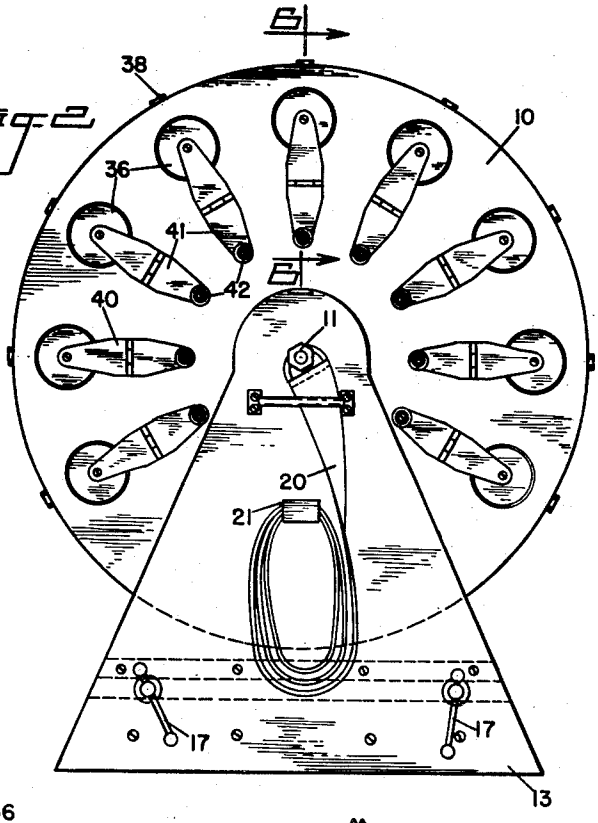


Fig 2

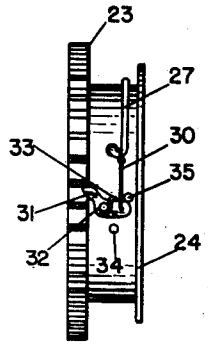


Fig 5

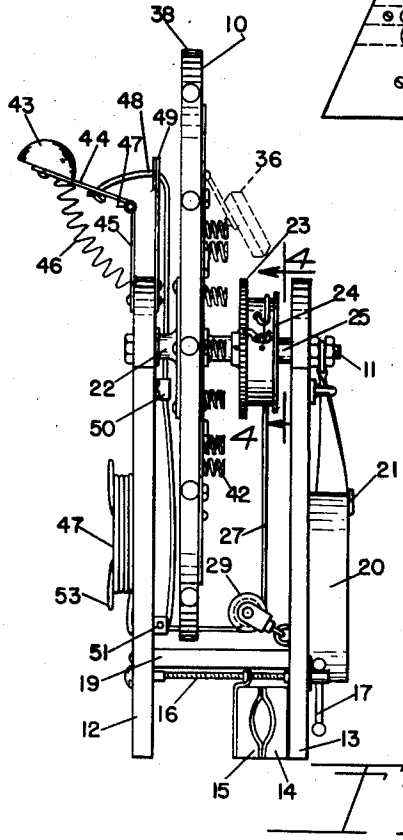


Fig 3

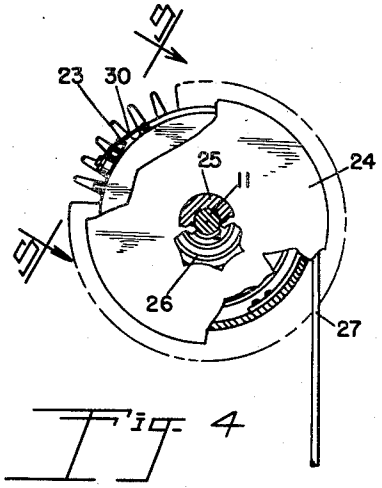


Fig 4

INVENTOR.

HAROLD C. JOHNSON

BY Buckhaw and Cheatham

ATTORNEY

United States Patent Office

2,707,634

Patented May 3, 1955

2,707,634

TARGET WHEEL

Harold C. Johnson, Portland, Oreg.

Application October 20, 1952, Serial No. 315,665

4 Claims. (Cl. 273—1)

My present invention comprises an amusement device of the type for selecting a number, character, color, or other indicia by chance coupled with a degree of skill. The present invention is particularly designed for bedridden invalids and serves not only to relieve the monotony of long periods of convalescence but also as a therapeutic agent in encouraging the use of certain muscles such as those of the hands and arms.

A further object of the present invention is to provide means of the amusement device character whereby convalescents including bedridden patients, and others, may play certain games involving the selection of certain symbols such as numerals, characters, or colors. The present invention may be utilized by players having certain cards such as "Bingo" cards, ticktacktoe cards, or checker boards, whereby the act of selecting a certain indicia determines the character of play or movement of pieces on the card or board. Numerous competitive games may thus be played in accordance with rules which may be supplied along with cards or game boards and movable pieces to be utilized therewith.

A principal object of the present invention is to provide a game device of the character disclosed, in which a plurality of targets mounted on a selector wheel may be individually selected, the target moving to a clearly distinguishable position upon being selected so that the player may know his next move, and in which the target is automatically returned to its normal position upon continued rotation of the selector wheel. By reason of this construction invalids are enabled to play, since the player need not restore the targets to their normal position after each actuation thereof.

A further object of the present invention is to provide a device of the character described requiring a certain degree of skill, rather than mere chance selection, thereby training an invalid or small children in the use of skillful restraint of their actions in selecting a playing indicia. This object is achieved in part by the use of resilient bumper means associated with the movable targets which, if struck with an excessive force, will immediately cause the target to rebound into its normal position and nullify the player's selection.

A further object of the present invention is to provide a device of the foregoing character which is sturdy, easily constructed from inexpensive materials, and able to withstand impatient or rough handling.

The objects and advantages of the present invention may be more readily ascertained by inspection of the accompanying drawings taken in connection with the following specification, wherein like numerals refer to like parts throughout, and in which a preferred embodiment of the invention is illustrated and described.

In the drawings,

Fig. 1 is a view in perspective of a hospital bed having the present invention mounted thereon;

Fig. 2 is an enlarged, rear view of the present invention;

Fig. 3 is a side elevation of the present invention;

Fig. 4 is a vertical section, on an enlarged scale, of a

part of the invention, with parts broken away to illustrate the details;

Fig. 5 is a side view of Fig. 4, taken substantially from the plane of the line 5—5 of Fig. 4; and

Fig. 6 is a vertical section, on an enlarged scale, taken substantially along line 6—6 of Fig. 2.

The present invention comprises a selector wheel or disc **10** which may be made of half-inch plywood, plastic, or other suitable material, which is rotatably mounted for rotation about a horizontal axis exemplified by the bolt **11** maintained at the upper end of a pair of vertical standards **12** and **13**. The lower edge of the rear standard **13** supports a fixed, felt-lined clamping jaw **14** with which cooperates a movable, felt-lined clamping jaw **15** operably mounted upon a pair of clamping screws **16** having capstan heads indicated at **17**, whereby the device may be clamped onto the top rail **18** of the foot of an ordinary hospital bed, as illustrated in Fig. 1. The lower edge of the front support is held at a considerable space from the rear support by a transverse board **19**, whereby relatively firm support may be provided for the game device by reason of the front support **12** resting upon the foot of the mattress, as illustrated in Fig. 1. A strap **20** having one end attached to the rear end of the bolt **11** may be utilized to tie the device to the bed frame, the strap normally being coiled and retained on a hook **21**. It is to be appreciated that various other means may be provided to mount the present invention upon a bedstead or to support it in some other manner.

The bolt **11** is suitably held against rotation in the supports **12** and **13** and the wheel **10** is mounted for relatively free rotation thereabout on a hub **22**. A ratchet **23** is fixed to the inner end of the hub **22** and frictionally bears against a flanged drum **24** journaled on the bolt **11** and held in spaced relation to the support **13** by a spacer collar **25**. The drum houses a spiral spring **26**, one end of which is fixed to the bolt **11** and the opposite end of which is fixed to the drum, as seen in Fig. 4. A flexible pull cord **27** having a knob **28** at its free end extends through an opening in the support **12**, passes about a guide pulley **29** mounted on the support **13** above the crossboard **19**, and is partially wrapped around the drum **24** when it is in normal position. The inner end of the cord **27** is connected by a short wire **30** to one arm of a double-arm dog **31** pivoted at **32** on the surface of the drum. A spring **33** suitably connected to the dog and to its pivot normally maintains the arm of the dog against an abutment **34** on the surface of the drum so that the dog is clear of the teeth of the ratchet **23**, while pulling upon the cord **27** causes the arm of the dog to engage an abutment **35** and thus cause rotation of the drum against the force of the spring **26**. This action engages the dog **31** with one of the teeth of the ratchet **23** to cause the ratchet and selector wheel to rotate with the drum. At the end of a short pull on the cord **27** the tension may be released, permitting the spring **33** to return the dog against the abutment **34**, thus permitting the selector wheel **10** and the attached ratchet **23** to continue rotation in a free-wheeling manner. The spring **26** then returns the drum with the attached dog to the normal position illustrated in Figs. 3, 4 and 5.

A plurality of targets **36** are mounted in openings **37** arranged in a concentric circle around the wheel **10**, the targets comprising beveled plugs of suitable material and of substantially the same thickness as that of the selector wheel, and the targets having substantially the same diameter as the diameter of the openings **37** so that they fit snugly within the openings. However, the edges of the targets **36** are beveled so that only a small portion thereof frictionally engages the side wall of the opening so that they may be pushed rearwardly from the openings by the exertion of a slight force. A spring-

urged ball check device, indicated at 38, is mounted in an opening in the periphery of the wheel 10 in radial alignment with each target and a striker plate 39 having a depression in which the ball may engage is mounted upon the outer edge of each target so that a somewhat positive, friction retaining means is provided. Each target 36 is mounted on the free arm 40 of a hinge, the inner arm 41 of which is fixed to the rear surface of the selector wheel, the pintle portion of the hinge lying across a radius of the selector wheel so that upon rearward displacement of any target it may move rearwardly through an arc toward the axis of rotation of the wheel. A resilient bumper 42 in the form of an outwardly projecting, spiral spring, is suitably mounted on the inner end of each fixed arm 41 of the hinges, the target striking the outer end of the resilient bumper 42 when it reaches the end of its inward swinging movement, as illustrated in dash outline in Fig. 3. The resilient bumper spring is so designed as to cause rebound of the target back into the opening 37 in the event that it is struck with sufficient force.

In order to select a symbol while the selector wheel is in movement, a striker is actuated, the striker being pivotally mounted to move upwardly in a vertical plane including the axis of the wheel so as to engage the wheel or one of the targets when uppermost. A certain amount of chance is thus involved in selecting the symbol, but with practice a certain degree of skill may be achieved by anticipating the target which will be engaged when the striker has reached the limit of its movement. The striker comprises a semispherical knob 43 mounted at the end of the free, upwardly projecting arm 44 of a hinge, the lower arm 45 of which is mounted on the upper end of the standard 12. A light coil spring 46 is tensioned between the arms of the hinge so as normally to maintain the striker in an outwardly and upwardly inclined position as illustrated in Fig. 3, an abutment 47 being provided to limit outward movement of the striker. The arm 44 is connected to one end of a second pull cord 48 which passes through a guide 49, downwardly behind the standard 12, through a second guide 50, about a pulley 51 and forwardly through an opening in the standard 12, the pull cord 48 terminating in a second knob 52. The knobs 28 and 52 are at the ends of cords sufficiently long to be grasped by a patient lying in the bed upon which the device may be mounted. The cords, when not in use, may be wound upon suitable brackets 53 mounted upon the standard 12.

In order to operate the device, the player tugs the cord 27, thus starting the wheel rotating in a counterclockwise direction. The player then tugs the cord 48 to cause the striker knob 43 to eject one of the targets 36 from the plane of the board. If this is done too forcibly the bumper 42 causes the target to rebound back into position, which may, according to the rules of the game, nullify the play. If the target remains in its ejected position, it will nevertheless automatically return to its normal position in the plane of the board when the target reaches a position beneath the axis of the wheel. Two or more of the devices may be employed by convalescent players in adjoining beds, or one of the devices may be employed with the players taking alternate turns at the pull cords. A degree of uncertainty may be imparted by having one player operate the selector wheel while another player operates the striker. To this end the device is so arranged that one of the pull cords may be passed to a player in a bed adjoining the bed upon which the device is mounted.

It is to be appreciated that the targets 36 may be painted different colors, or may carry numerals, letters or other symbols which indicate a move or play of the player. The targets may have various values assigned to them whereby a player may arrive at a winning position by having the highest total value for a series of struck targets.

Having illustrated and described a preferred embodiment of the present invention, it should be apparent to those skilled in the art that the same permits of modification in arrangement and detail. All such modifications as come within the true spirit and scope of the appended claims are considered to be a part of my invention.

I claim:

1. A device of the character described comprising a rotatable wheel, means mounting said wheel for rotation about a horizontal axis, a plurality of targets normally frictionally retained in the plane of said wheel, a plurality of hinged, radially extending arms each supporting one of said targets for swinging movement from the plane of the wheel rearwardly toward the axis thereof, a pull-cord operated means to rotate said wheel, and other pull-cord operated means selectively to strike targets from the plane of said rotating wheel.

2. A device of the character described comprising a rotatable wheel, means mounting said wheel for rotation about a horizontal axis, a plurality of targets normally frictionally retained in the plane of said wheel, a plurality of hinged, radially extending arms each supporting one of said targets for swinging movement from the plane of the wheel rearwardly toward the axis thereof, a striker pivotally mounted above the axis of the wheel for movement toward and away from said wheel whereby one of said targets may be struck from its normal position during rotation of said wheel, and a pull cord operatively attached to said striker.

3. A device of the character described comprising a rotatable wheel, means mounting said wheel for rotation about a horizontal axis, a plurality of targets normally frictionally retained in the plane of said wheel, a plurality of hinged, radially extending arms each supporting one of said targets for swinging movement from the plane of the wheel rearwardly toward the axis thereof, a resilient bumper radially inward from each of said targets adapted to be struck by said target when so swung, means including a ratchet and dog device and a pull-cord manipulator thereof for rotating said wheel from a distant point, a striker hingedly mounted for movement toward and away from said wheel, and pull-cord means operably associated with said striker forcibly to move the same into engagement with said targets.

4. A device of the character described comprising a rotatable wheel, means mounting said wheel for free-wheeling rotation about a horizontal axis, a plurality of targets normally frictionally retained in the plane of said wheel, a plurality of hinged, radially extending arms each supporting one of said targets for swinging movement from the plane of the wheel rearwardly toward the axis thereof, a coil spring bumper radially inward from each of said targets adapted to be struck by said target when so swung, means including a ratchet and dog device and a pull-cord manipulator thereof for initiating rotation of said wheel from a distant point, a striker hingedly mounted above the axis of said wheel and movable in a vertical plane toward and away from said wheel, and pull-cord means operably associated with said striker selectively to move the same into engagement with said targets during rotation of said wheel.

References Cited in the file of this patent

UNITED STATES PATENTS

1,121,945	Smith	Dec. 22, 1914
1,212,943	Hart	Jan. 16, 1917
1,942,376	Stavely	Jan. 2, 1934
2,232,743	Swenson	Feb. 23, 1941
2,486,860	Memmel	Nov. 1, 1949
2,523,257	Firestone	Sept. 19, 1950