F. A. YEAGER.

GAME APPARATUS.

APPLICATION FILED JAN. 19, 1914.

1,211,026. Patented Jan. 2, 1917.

FIG. 1.

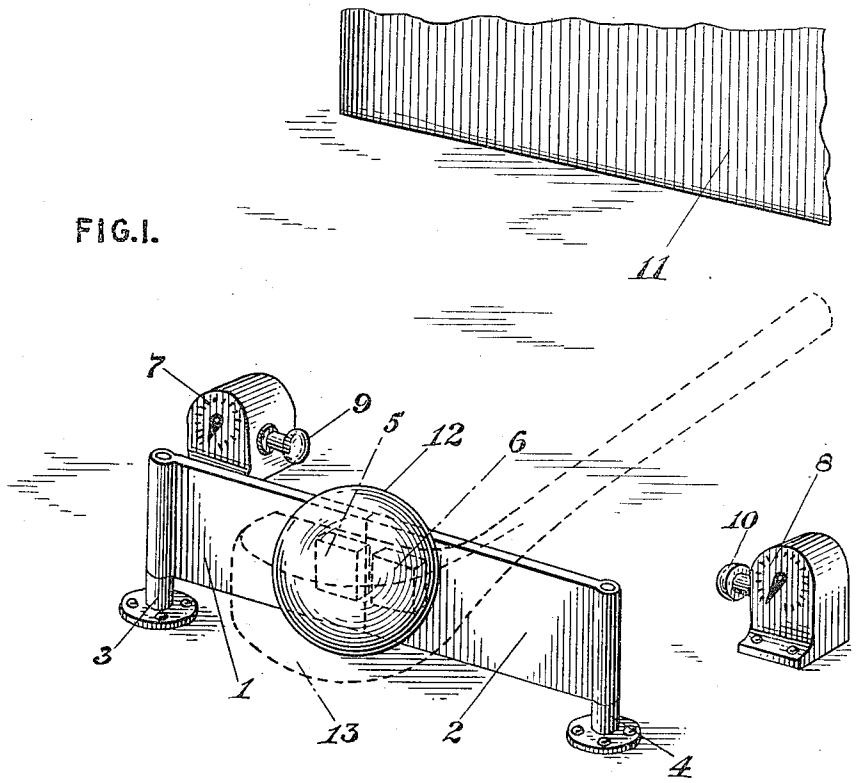
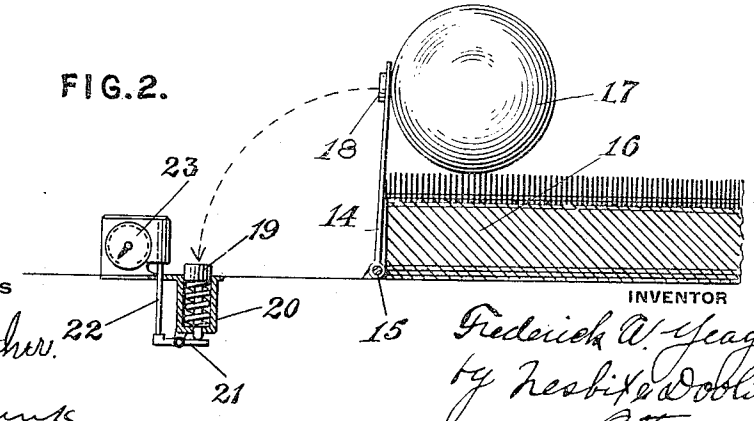


FIG. 2.



WITNESSES

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GAME APPARATUS.

1,211,026. Specification of Letters Patent. Patented Jan. 2, 1917.

Application filed January 19, 1914. Serial No. 812,894.

To all whom it may concern:

Be it known that I, FREDERICK A. YEAGER, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Game Apparatus, of which the following is a specification.

One of the objects of this invention is to provide means whereby the force of a blow against a projectile may be mechanically measured so as to determine the force of impact, and thereby arrive at the distance the projectile would be propelled in the event of there being no interference with its flight.

The mechanism illustrated is particularly adapted for use in playing indoor golf, and is so arranged that one may determine the distance a ball would be driven by each stroke of the club which comes in contact therewith; and, further, means is provided whereby it may be determined whether the blow against the ball would impart a slice or pull thereto, or whether the force of impact is in the center of the ball so as to drive it in a straight line.

In the drawings:—Figure 1 is a perspective view of one form of my invention; and Fig. 2 is a side view in section of a modified form thereof.

In adapting the invention for indoor golf, I may employ a pair of impact transmitting devices consisting of wings 1 and 2 pivoted to upstanding pintles 3 and 4 which may be secured to the floor of a room by any suitable means. Each wing is preferably provided with a weight or hammer, for example, those designated by the numerals 5 and 6. The two wings are shown as having their free ends adjacent to each other, and to one side of each wing is shown a register 7 for the wing 1 and 8 for the wing 2. Each register is provided with an impact receiving plunger 9 and 10 respectively. In front of the barrier formed by the two wings 1 and 2, a barrier 11 in the form of a sheet of canvas or similar material may be suitably suspended so as to arrest the flight of the ball 12 when it has been driven by the club 13 in the hands of the player.

When the parts are assembled as shown in Fig. 1 and an impact or blow is communicated to the ball 12, the impact transmitting devices 1 and 2 will be swung on their pintles with sufficient force to cause the hammers 5 and 6 to come into contact with the plungers 9 and 10. The blows struck on the plungers 9 or 10 will be approximately that communicated to the ball, and if the ball is hit by the club 13 directly in the center so as to propel it in a straight line, each impact transmitting device or wing 1 and 2 should communicate one-half of the blow to its respective plunger, so that each registering mechanism will register one-half of the sum total of the blow struck by the club. If, however, the ball is not hit directly in the center or more of the impact is communicated to one side of the center of the ball than to the other, the impact transmitting device on the side of the ball receiving the major portion of the blow will cause its register to register a greater proportion of the blow struck than the register on the other side, so that the player may determine whether a blow was communicated to the ball such as would impart a slice or pull thereto if the flight was unretarded. The sheet of canvas barrier 11 will retard the flight of the ball after it has passed the impact transmitting devices 1 and 2.

The distance that the sheet 11 will be from the members 1 and 2 may be varied to suit the whim of the player.

With the device constructed as heretofore described, the player may arrange a map of an imaginary golf course or a map of an actual golf course, and by observing the indicators, may determine the position of the ball after each drive for each hole. Also approach shots and other shots may be assimilated by simply observing the dial of the indicators, and observing the position of the ball as it strikes the canvas. By this means, the operator can approximately determine just what the result would be of an actual game played upon actual links.

In Fig. 2, I have shown a slightly modified form of the invention in which a single impact transmitting wing 14 is shown pivoted at 15, said impact transmitting member 14 being in this case illustrated in a vertical position and resting against one edge of a mat or rug 16 on which rests the ball 17. The hammer or weight 18 is adapted to strike against the spring pressed plunger 19 in the guide tube 20, and through the medium of a pivoted lever 21 impart motion to the plunger 22 of the registering mechanism. In the latter case, the calculations for the length of flight of the ball may be determined by viewing the indicator 23.

The indicator dials may be properly calibrated in divisions of yards, but as the actual calibration of the indicator or the actual indicator construction is not a part of this invention, I have deemed it unnecessary to specifically refer to any particular mechanism.

Inasmuch as the ball is in contact or substantially in contact with the barrier at the time the blow is struck, it will be readily understood that the full and direct effect of the blow is placed on the barrier itself, the ball, at the blow-receiving instant acting to transmit the effect of the blow directly to the barrier, the latter being moved by such blow out of the path of movement of the ball, leaving the latter free to travel under the effect of the blow. This arrangement permits of the use of the usual golf clubs, and simulates playing conditions of the game.

What I claim is:—

1. In apparatus for mechanically determining the flight of a ball under the action of an impact device, a movable impact-receiving member temporarily contacting with the ball when the latter is subjected to impact from said device, and a registering mechanism in the path of movement of the impact-receiving member and adapted to receive and register the blow from said member, the movements of the member under the blow permitting the ball to take its flight.

2. In apparatus for determining the effect of a blow on a golf ball under the action of a club, a swinging impact-transmitting member substantially contacting with the ball when the latter is subjected to impact from said club and movable out of the path of flight of the ball, and registering mechanism having means in the path of movement of the swinging impact transmitting member to receive a blow therefrom.

3. In an apparatus for measuring the flight of a golf ball, independently swinging barriers substantially in contact with and adapted to receive the force of impact of a blow communicated to the ball, said barriers being movable away from and out of the direction of flight of the ball, and registering mechanism in the path of movement of the barriers to which said blow is adapted to be transmitted by the swinging barriers.

4. In apparatus for measuring the extent of a blow on a golf ball under the action of a golf club, of a swinging barrier adapted to receive the blow from and movable out of the path of movement of the ball, said barrier being in temporary contact with the ball in advance of the delivery of the blow, and an indicating mechanism in the path of swing of the barrier to indicate the force of the blow communicated thereto.

5. The combination of a divided barrier, each member of the barrier being movable, and a registering mechanism in the path of movement of each barrier, each registering mechanism being adapted to indicate the force of the blow communicated to its particular barrier member.

6. The combination of a pair of swinging wings, each wing being adapted to receive a proportion of the blow communicated by a ball, and indicating mechanisms in the path of movement of the wings to indicate the proportion of the blow taken by each wing.

7. In apparatus for measuring the extent of a blow on a golf ball, an impact-receiving member adapted to temporarily contact with the ball in advance of the delivery of the blow, said member being pivoted at one end, the other end being freely movable about the axis of the pivot, and a registering mechanism in the path of movement of said impact-receiving member to indicate the force of the blow communicated to said member.

8. The combination with game apparatus elements adapted to provide blow imparting and blow receiving action, of measuring mechanism adapted to indicate the effect of the blow received, said mechanism including a member in contact with the blow-receiving element when the blow is received, whereby the direct effect of the blow will be transmitted to said member, said mechanism being independent of said game apparatus elements to permit game playing independent of the mechanism.

9. The combination with game apparatus elements adapted to provide blow imparting and blow receiving action, of measuring mechanism adapted to indicate the effect of the blow received, said mechanism including a member in contact with the blow-receiving element when the blow is received, said member being movable out of the path of movement of the blow-receiving element under the action of the blow transmitted from the blow-imparting element to said member through the blow-receiving element, said mechanism being independent of said game apparatus elements to permit game playing independent of the mechanism.

10. In apparatus for measuring the effect

of a golf club stroke, measuring mechanism including a barrier in temporary contact with the ball during the application of the stroke to the ball and movable under impact of the ball to provide the measurement, the barrier movement taking the barrier out of the flight path of the ball.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK A. YEAGER.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."