W. J. ENGLISH & G. M. WILCOX.

IMPACT INDICATOR AND GAME DEVICE.

APPLICATION FILED SEPT. 2, 1913.

1,145,833.

Patented July 6, 1915.

2 SHEETS—SHEET 1.

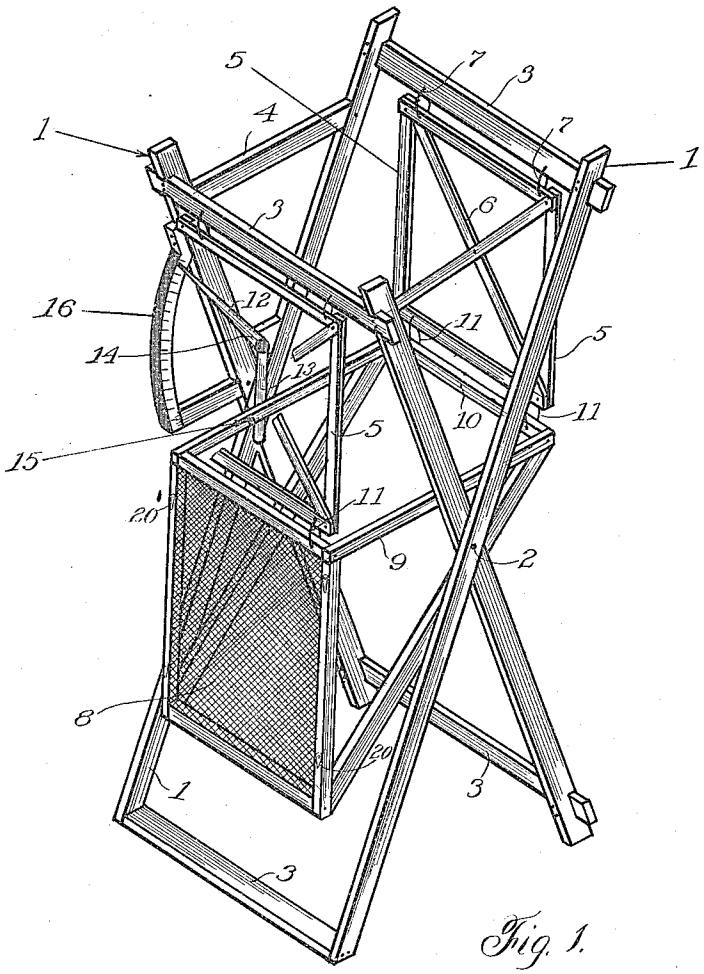



Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

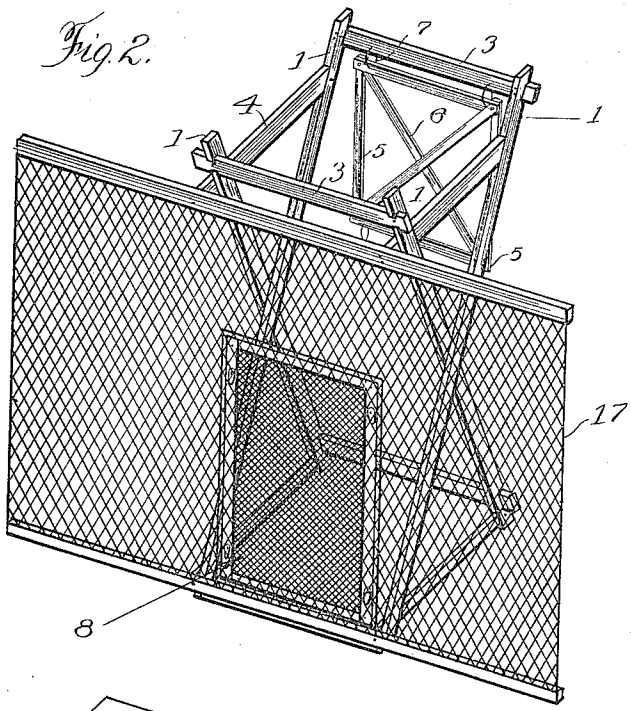



Fig. 3.

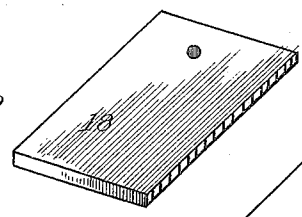






Fig. 4.

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# UNITED STATES PATENT OFFICE.

WILLIAM J. ENGLISH AND GUY M. WILCOX, OF CHICAGO, ILLINOIS; SAID WILCOX ASSIGNOR TO SAID ENGLISH.

## IMPACT-INDICATOR AND GAME DEVICE.

1,145,833. Specification of Letters Patent. Patented July 6, 1915.

Application filed September 2, 1913. Serial No. 787,653.

*To all whom it may concern:*

Be it known that we, WILLIAM J. ENGLISH and GUY M. WILCOX, both citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have jointly invented certain new and useful Improvements in Impact-Indicators and Game Devices, of which the following is a description.

Our invention belongs to that class of devices for indicating ballistic impulses, and may be employed in playing a game in a limited space, for example within a room, when the player may, to a greater or less extent, approximate the operation, together with the judgment and skill required in playing a game out of doors and requiring much larger space, such for example as golf.

The object of our invention is to produce a simple and economical device to be employed for this, as well as for other purposes, and which will operate with a reasonable degree of accuracy for said purposes.

To this end our invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like or corresponding characters indicate like or corresponding parts, Figure 1 is a perspective view of a simple form of ballistic meter and indicator, constituting a part of our invention, with parts broken away to more clearly show the construction. Fig. 2 is a similar view of a like device, which is arranged to set up to be used in playing a game therewith. Fig. 3 is a perspective view of a teeing surface or ground to be employed therewith, and Fig. 4 is a similar view of a putting ground or green, which may also be employed in playing a game with said device.

Broadly speaking, our invention is based upon a simple, economical, and effective ballistic member, preferably provided with a comparatively large impact face, and delicately supported and arranged to be affected by even a comparatively slight impact of the ball therewith, combined with a simple and reasonably accurate meter or measuring device, which shall also include means to indicate the movement of the ballistic surface. The ballistic or impact surface is preferably so supported as to uniformly present a substantially vertical face, as it moves or yields to the impact of the ball.

In the preferred form shown in the drawings, 1, 1 indicate the side bars of two rectangular frames, preferably pivotally connected as at 2; 3, 3 are the end cross pieces for the same, while 4 is any preferred form of link bar, or equivalent means, arranged to maintain the two frames in open position as indicated; 5, 5 are, as shown, rectangular frames suitably stayed as at 6 to prevent side motion, and pivotally supported or suspended at 7 upon the upper cross-bars 3 to permit a swinging motion thereon; 8 is the impact member consisting of a frame covered with tightly drawn woven wire, or other suitable material, which will quickly and with reasonable accuracy transmit the impact thereon to the supporting frame carrying said member. As shown, the supporting frame consists of two triangular frames 9 connected at two angles by the end frames of the member 8, and at the other angle by a bar 10. This frame is pivotally or swingingly supported upon the free ends of the swinging frames 5 as at 11; thus allowing the impact member a substantially horizontal movement in reference to an impact thereon without materially changing the angle of its impact surface.

Any preferred and suitable means to measure the swinging movement of the impact member and to indicate said movement, may be employed. As shown, a simple device for this purpose is shown in Fig. 1, wherein a pointer of bell-crank form 12, 13, pivotally supported upon any suitable part of the frame, as at 14, with one end as at 13, extending in the path of a pin 15, carried on the supporting frame of the impact member, and the other end or pointer 12 extended in proximity to a graduated bar or dial 16. In the preferred form, the friction on the pivot 14 is just sufficient to prevent overthrow by the movement of the frame contacting with the bell-crank, and at the same time to cause the pointer to remain at the extreme point caused by the movement of the impact member, until the pointer shall again be set.

From the above description it will be apparent that any impact upon the member 8 will be transmitted to the bell-crank pointer

12, 13, which will thus indicate the movement of said member and remain in such position until it shall again be set by hand.

While we have described a simple and effective device for the purpose set forth, it is obvious that many immaterial modifications may be made in various parts and methods of connecting them, without departing from the spirit of our invention; consequently we do not wish to be limited to the exact form and construction illustrated, which is here shown for the purpose of showing an extremely simple and economical form of device, which at the same time will be effective for the purposes set forth.

Figs. 2, 3 and 4 indicate the method by which our device may be employed, for illustration, in playing the game of in-door golf. As here shown, a net 17, or equivalent means, is supported in a suitable frame. It may be supported upon the frame 1, as shown; or otherwise, as preferred. At a suitable point in the net is arranged an opening of sufficient size to somewhat snugly receive the impact member 8, so as not to interfere with its operation; 18 indicates a teeing mat, or suitable device, on which the ball may be placed preparatory to striking the same and driving it against the impact member, while 19 indicates a putting surface having the usual pocket 20. It will be understood that all the parts are properly proportioned to suitably coöperate for the purpose set forth.

The method of playing the game will be apparent to those accustomed to the so-called in-door golf. The scorer, provided with a score-card of the particular links to be played, will keep the score by deducting the distance the ball would have been driven under ordinary circumstances, as shown by the indicator. The player, in driving the next ball, will take into consideration the distance he is to make in order to reach the putting green, and our device will, with reasonable accuracy, indicate the skill and judgment exercised on his part in the stroke. Upon making the distance to the putting green, the ball will then be placed upon the putting surface and putted out in the usual manner.

Hazards may be taken into consideration in any way preferred, for illustration a sand-pit or bunker may penalize a player a stroke, while a water hazard may penalize the player two strokes. This, of course, may be modified as desired, but it is clear that the element of hazards may be brought into the game, adding greatly to the interest therein. It will also be clear that the player must strike the ball with substantially the same force that is required when in playing the game in the open, an element which is not present in the usual in-door golf game where the player is in danger of falling into the error of pitching the ball, owing to the short distance, to secure greater accuracy, rather than driving it with a force sufficient to obtain the distance necessary in playing the game in the open. The line of direction of the ball may be indicated by the angle at which it strikes the impact member, that is, the angle from the point of driving to the face of said member. This may be clearly shown by removably placing a paper or similar target over the impact face. The target will show the imprint of the ball, and the lines on the target will show the vertical and horizontal departure from a straightly driven ball. Simple clips 20 (Fig. 1) or equivalent means, may serve to hold the target in proper position.

It is obvious that the size or area of the impact member may be such as experience will show is the most practical, while the delicacy of the operation of the impact member may be increased by exercising reasonable care and proper mechanical skill in the construction of the device and the assembling of the parts. It is also obvious that a ball striking the surface of the impact member at an improper angle, would lose a corresponding proportion of the force, which would be indicated on the device. Just as in playing the game in the open, a ball so driven would lose both distance and direction.

Having thus described our invention and one method of using the same in playing a popular game, what we claim as new and desire to secure by Letters Patent is:

1. A device of the kind described, comprising suitably supported horizontal bars arranged parallel to each other in substantially the same horizontal plane, and depending links pivotally supported by the bars, in combination with a target box-frame provided with an impact target on one of the faces, pivotally connected to the free ends of the links to maintain the target face in a vertical position, and means for indicating the movement of the target when it is struck by a missile.

2. In a device of the kind described, two frames pivotally supported at one edge parallel to one another, in substantially the same horizontal plane, in combination with a target box-frame pivotally connected to the free edges of the parallel frames and provided with a vertical impact target, and means for indicating the movement of the target when struck by a missile.

3. In a device of the kind described, a supporting frame provided with two bars arranged parallel to each other in substantially the same horizontal plane, a depending frame pivotally connected at one of its edges to each of the bars and extending downward substantially the same distance, in combination with a target box-frame piv-

otally connected to the free edges of the depending frames to maintain an impact target carried thereby in a substantially vertical position, and means for indicating the movement of the target when struck by a missile.

4. In a device of the kind described, a supporting frame provided with two bars arranged parallel to each other in substantially the same horizontal plane, a depending frame for each of the bars pivotally connected at one of its edges thereto, and extending downward substantially the same distance, in combination with a target box-frame pivotally connected to the free edges of the depending frames to maintain an impact target carried thereby in a substantially vertical position, a graduated member and a coöperating indicating member therefor, one of said members being fixed and the other being operable by the movement of the target.

In testimony whereof, we have hereunto signed our names in the presence of two subscribing witnesses.

WILLIAM J. ENGLISH.
GUY M. WILCOX.

Witnesses:
ROY W. HILL,
CHARLES I. COBB.

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