F. M. BROWN.

BASE BALL GAME.

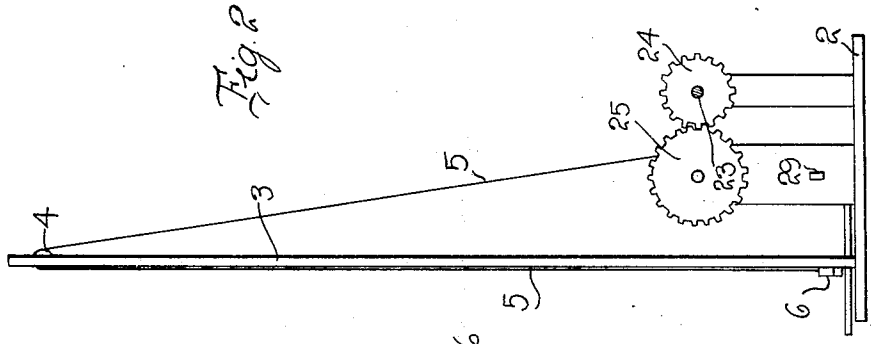
APPLICATION FILED AUG. 5, 1915.

1,190,099.

Patented July 4, 1916.

2 SHEETS—SHEET 1.

Fig. 2



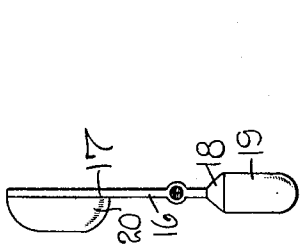
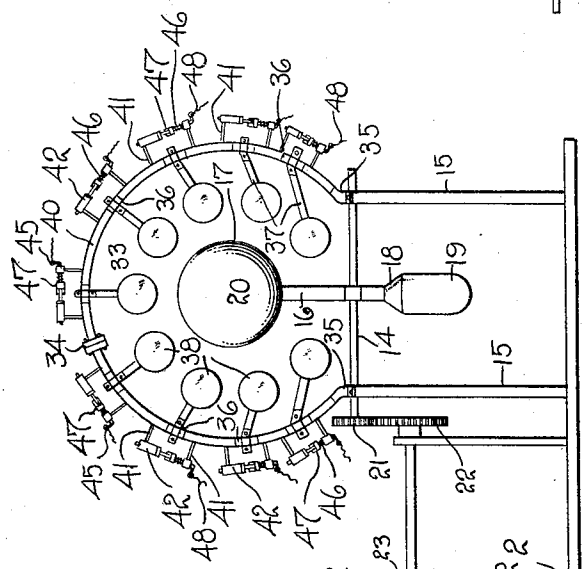


Fig. 9



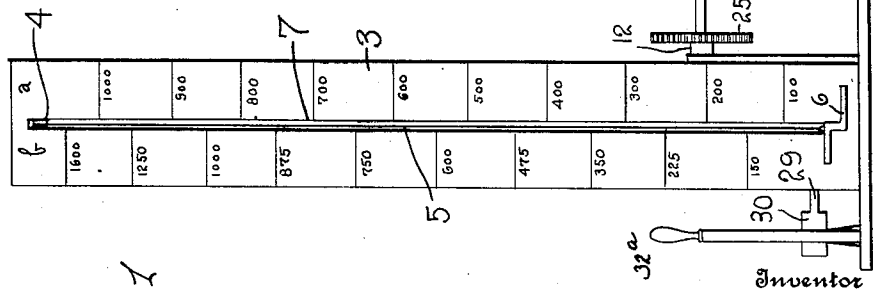


Fig. 1

Inventor

F. M. BROWN

By Watson E. Coleman

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

F. M. BROWN.

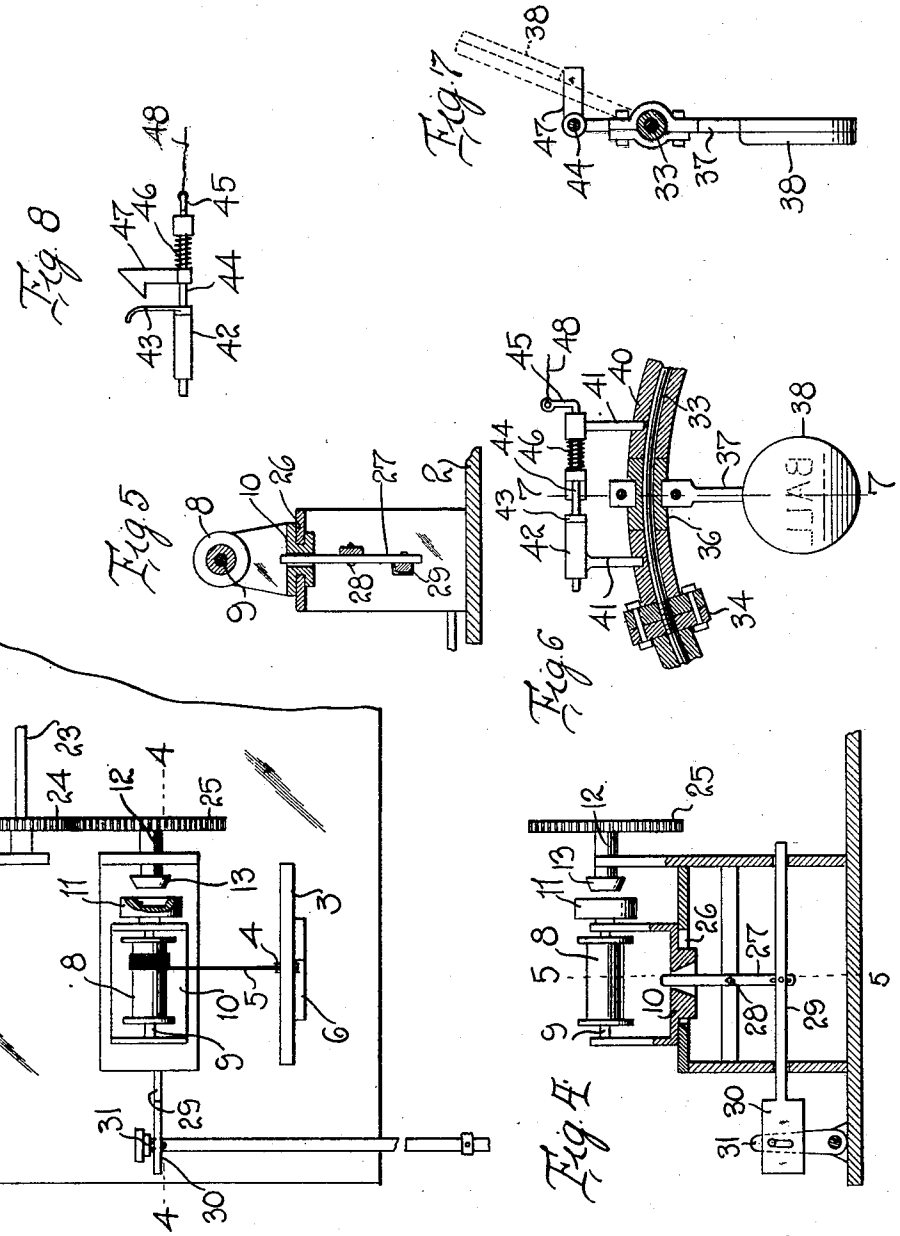
BASE BALL GAME.

APPLICATION FILED AUG. 5, 1915.

1,190,099.

Patented July 4, 1916.

2 SHEETS—SHEET 2.



Inventor

F. M. BROWN

By Watson E. Coleman

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO. WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK M. BROWN, OF BAYONNE, NEW JERSEY.

BASE-BALL GAME.

1,190,099. Specification of Letters Patent. Patented July 4, 1916.

Application filed August 5, 1915. Serial No. 43,818.

To all whom it may concern:

Be it known that I, FRANK M. BROWN, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Base-Ball Games, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to amusement devices, and particularly to means whereby the velocity and accuracy of a thrown or batted ball may be determined and whereby the direction of the ball with relation to a certain direction or line may be indicated and whereby the force and therefore the velocity of the ball, whether thrown or batted, may be registered.

An object of the invention is the provision of a device of the character above stated which may be used for the purpose of testing the accuracy and power of a thrown or batted ball, and which is so arranged that it will indicate or register the character of the ball or the manner in which it is thrown or batted so that it may be used in base ball practice.

Other incidental objects will be stated more fully in the following specification.

An embodiment of my invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a face view of my mechanism; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Fig. 3 is a fragmentary plan view of the registering board, the drum, and the means for communicating motion to the drum and disconnecting it from the power transmitting means; Fig. 4 is a front elevation of the construction shown in Fig. 3; Fig. 5 is a section on the line 5—5 of Fig. 4; Fig. 6 is a detail sectional front view of a portion of the arch and one of the auxiliary targets; Fig. 7 is a section on the line 7—7 of Fig. 6; Fig. 8 is a fragmentary detail view of the latching means for engaging the arm of the subsidiary target when the latter is raised; and Fig. 9 is a side elevation of the main target and its supporting arm.

Referring to these figures, 2 designates a base of any suitable character, upon one end of which is mounted the upwardly extending register board 3 which may be in the form of a framework supporting a plate having thereon certain graduations as will be later described. At the upper end of the register board is mounted a pulley 4, over which pulley passes a cord 5 one end of which is connected to a Z-shaped registering pointer 6 which moves over the face of the board. Preferably the board is slotted, as at 7, so as to form guides for the pointer 6. The cord 5 passes downward to a winding drum 8 mounted upon a shaft 9 supported in any suitable bearings in turn mounted upon a sliding base 10. The reason for so mounting the drum will be later described. Carried upon the shaft 9 is a friction clutch element 11 and also supported in line with the shaft 9 is a shaft 12 carried upon a friction clutch element 13. Under normal circumstances these clutch elements are engaged with each other so that a rotation of the shaft 12 will cause a rotation of the shaft 9 and a consequent winding up of the cord 5 and an elevation of the pointer 6.

One of the objects of this invention, as before stated, is to register the force of a batted or thrown ball, and to this end I provide a rotatable spindle or shaft 14 which is mounted in bearings in suitable standards 15, which shaft carries upon it the upwardly projecting arm 16 which carries at its end a target 17. The arm 16 is extended beyond the spindle 14, as at 18, and carries upon it a counter-weight 19 which will act to support the target in a vertical position above the shaft 14. This counter-weight 19 also acts as an inertia element resisting any rotation of the target and the shaft 14. The target 17 is formed at its center with a convex portion 20 which is preferably of leather and padded so as to present a hemispherical shape. The shaft 14 at its end carries a gear wheel 21 which engages with a gear wheel 22 mounted upon a shaft 23, this shaft being in turn supported in suitable bearings and carrying a gear wheel 24 which in turn meshes with a gear wheel 25 mounted upon the shaft 12. The ratio of these gear wheels 21, 22, 24 and 25 is to be determined by experiment. As before stated, the clutch members 11 and 13 are normally in engagement with each other, and as a consequence the impact of a ball upon the target 17 and more particularly upon the protuberant central portion 20 will cause the rotation of the target and of the shaft 14

and this through the train of gears heretofore described will cause a rotation of the winding drum 8 winding up the cord 5 and lifting the pointer 6. This pointer will move up the register 3 and indicate the velocity of the ball by reference to the graduations on the registering plate. In order to permit the release of the pointer 6, I provide means for disconnecting the shaft 9 from its engagement with the shaft 12 so as to permit the weight of the pointer to reverse the rotation of the drum. It is for this reason that I have mounted the shaft 9 upon the sliding member 10. This base 10 slides in guides 26 and pivotally connected to this sliding base 10 is a lever 27 pivoted in any suitable framework at 28, the free end of this lever being in turn connected to a transversely sliding member 29, the end of which is provided with a head 30 operatively connected to a lever 31 on a shaft 32, the extremity of this shaft being provided with a handle 32^a. By operating the handle 32^a the member 29 is laterally shifted which in turn shifts the sliding base 10 in one direction or the other to connect or disconnect the clutches 13. It will be seen that by this means the velocity of a thrown or hit ball will be indicated and the accuracy of the thrown ball will also be indicated by the fact that the target 17 is struck by the ball. In order to provide, however, for indicating the direction of balls thrown or hit which do not strike the target plate 17, I mount upon the support for the shaft 14 a supporting arch designated 33. This supporting arch has approximately the form of a segment of a circle, the segment being concentric to the center of the target plate 17. Preferably the arch is made of two sections of metal rod connected to each other by a coupling 34. The ends of the arch are engaged by brackets 35 which are bolted or otherwise attached to the standards 15 or other frame which supports the shaft 14. Mounted at intervals upon the arch bar 33 are a plurality of sleeves 36 each carrying a rotatable outwardly extending arm 37, the arm having at its end a circular disk 38 forming a target. These arms 37 normally extend inward in a direction radial to the center of the target 17. The sleeves 36 are spaced from each other by means of intermediate sleeves 40 in the nature of washers which hold the sleeves 36 in proper spaced relation upon the arch rod 33. The purpose of these subsidiary targets 38 is to provide means for indicating the direction of flight of a ball which does not hit the target 17 but comes within a reasonable distance thereof. When a ball strikes any one of these subsidiary targets it is whirled around so that its rear face is presented to the observer and held in this position by any suitable latching mechanism. Thus as illustrated, the intermediate sleeves 40 are provided with outwardly projecting arms 41. Supported on one of said arms is a tubular member 42 which carries a latch spring 43 outwardly turned at its extremity. Opposite the tubular member 42 is a longitudinally reciprocatable rod 44 which is slidably mounted in the corresponding arm 41 and which is formed with an outwardly directed extremity 45. A spring 46 urges this member 44 into engagement with the tubular member 42 and mounted upon this member 44 is an outwardly extending latch 47 having a head beveled upon its outer face. The spring 46 urges the latching member 47 toward the latching member 43, but by drawing upon the terminal end 45 of the rod 44 the latching members may be forced apart. When one of the subsidiary targets is struck it whirls around and a shank or arm passes between the two latching members and it is supported in its raised position as indicated in Fig. 7. When, however, the member 44 is withdrawn, as by means of a cord 48 which extends at any convenient point, the subsidiary target is allowed to drop back to its normal position.

The indicating board 3 is provided on one side of the slot 7 with graduations and on the other side of the slot with graduations disposed in staggered relation to the graduations on the first side. The side of the board designated *a*, has a scale to be used in conjunction with batted balls, while the side of the board designated *b* has a scale which is designed to be read with thrown balls.

It is to be noted that that portion of the pointer which indicates the velocity of the batted balls is depressed with relation to that part of the pointer which travels over the portion *a* of the board. I do this so that an additional number of points should be given to a ball that is batted over a ball that is thrown by reason of the fact that when a man is batting a ball he uses two hands and secures the strength of both arms whereas when the ball is thrown only one arm is used.

The targets 38 upon their rear faces may have certain characters indicating "balls" or any other inscription. If a thrown ball strikes the middle of the target 17 it will be considered a "strike."

As before stated, the plate 17 is formed at its middle with the hemispherical raised portion 20. Should a batsman hit a ball full he would make a long drive consequent on striking the center of the raised portion 20. Should, however, the ball not strike full in the center of the member 20 but slightly to one side thereof, the impact upon the target would not be as great consequent upon the deflection of the ball, and the registration would not be as high as it would if

the ball had struck the center of the target 17. The ball would be a "short hit." If the ball strikes the raised center 20 at another angle and be deflected from this raised portion 20 at such an angle as to strike one of the subsidiary targets, it would be a foul ball. If in batting the ball should not strike the target 17 at all but struck one of the subsidiary targets it would be considered to be a "strike." It will be seen that with this device not only the velocity of the ball and the strength of delivery of a pitcher may be indicated, but the accuracy of the pitched ball. Furthermore, the machine will indicate, generally speaking, whether the ball thrown is what is technically known as "a ball" or "a strike." Furtheremore, a batsman may practise with this device and increase thereby the accuracy of his batting and at the same time secure an indication of the strength with which he is batting. It is also possible for the machine to be used entirely for amusement, though it will at the same time furnish exercise of the best kind to the batter or pitcher. While I have shown certain details of construction I wish it understood that I do not wish to be limited to the details of construction as illustrated as these may be modified in many ways without departing from the spirit of my invention.

Having thus described my invention, what I claim is:

1. In an amusement device of the character described, a scale, an indicating device movable vertically over the scale, a winding drum, a flexible connection leading from the winding drum to the indicating device, a rotatably mounted target, means for operatively connecting the winding drum with the target whereby to cause the rotation of the winding drum upon a rotation of the target under the impact of an object, and means for manually disconnecting the winding drum from the target to thereby permit the return of the indicating device.

2. In an amusement device of the character described, a rotatably mounted target, an arcuate support disposed concentric to the target, and a plurality of subsidiary targets each rotatably mounted upon said support and spaced in uniform relation from the central target and from each other.

3. In an amusement device of the character described, a rotatably mounted central target, an arcuate support disposed concentric to the target, and a plurality of rotatable subsidiary targets mounted upon said support and normally supported in uniform spaced relation from the central target.

4. In a device of the character described, a shaft, a target mounted upon said shaft for rotation in a vertical plane, means for normally supporting the target in a vertical position, an arcuate support disposed concentric to the target, a plurality of subsidiary targets rotatably mounted upon said support and normally disposed in the same plane as the plane of the target, and means for indicating the number of revolutions made by the first named target under the impact of an object.

5. In an amusement device of the character described, a shaft, a target mounted thereon for rotation with the shaft and normally supported in a vertical position, means operatively connected to the shaft for indicating the number of rotations made by said shaft under the impact of an object upon the target, an arcuate support disposed concentric to the shaft, a plurality of subsidiary targets disposed concentric to the main target and at a uniform distance therefrom and from each other, said subsidiary targets being mounted for rotation in planes radial to the center of the main target, and means for engaging the subsidiary targets when they are rotated from their normal position into an upwardly projecting position under the impact of an object.

6. In an amusement device of the character described, a shaft, a target mounted thereon for rotation with the shaft and normally supported in a vertical position, means operatively connected to the shaft for indicating the number of rotations made by said shaft under the impact of an object upon the target, an arcuate support disposed concentric to the shaft, a plurality of subsidiary targets disposed concentric to the main target and at a uniform distance therefrom and from each other, said subsidiary targets being mounted for rotation in planes radial to the center of the main target, and means for engaging the subsidiary targets when they are rotated from their normal position into an upwardly projecting position under the impact of an object, said means including spaced latches supported in position to catch each target and hold it in its raised position, and means for releasing said latches to permit the return of the subsidiary target to its normal position.

7. In an amusement device of the character described, a shaft, a target mounted for rotation with the shaft and in a vertical plane, a vertically disposed indicating scale, an indicating device movable vertically up the scale, a pulley at the upper end of the scale, a flexible connection attached to the indicating device and extending over the pulley, a winding drum to which the flexible connection is connected, transmission mechanism between the first named shaft and the shaft of the winding drum and including clutch members movable with relation to each other into or out of coöperative engagement, and means for relatively

shifting said clutch members to release the winding drum from its engagement with the shaft.

8. In an amusement device of the character described, a supporting bar, a plurality of targets rotatably mounted upon said bar, and normally disposed in a depending position, sleeves spacing said targets from each other and surrounding said bar, means for each target for catching the target when it is rotated from its depending position to a raised position, and means for releasing said catching means.

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

FRANK M. BROWN.

Witnesses:
DANIEL J. HENNESSEY,
GEO. A. BENTON.

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