G. E. BAIRD.

SCORE BOARD.

APPLICATION FILED APR. 15, 1908.

911,363. Patented Feb. 2, 1909.

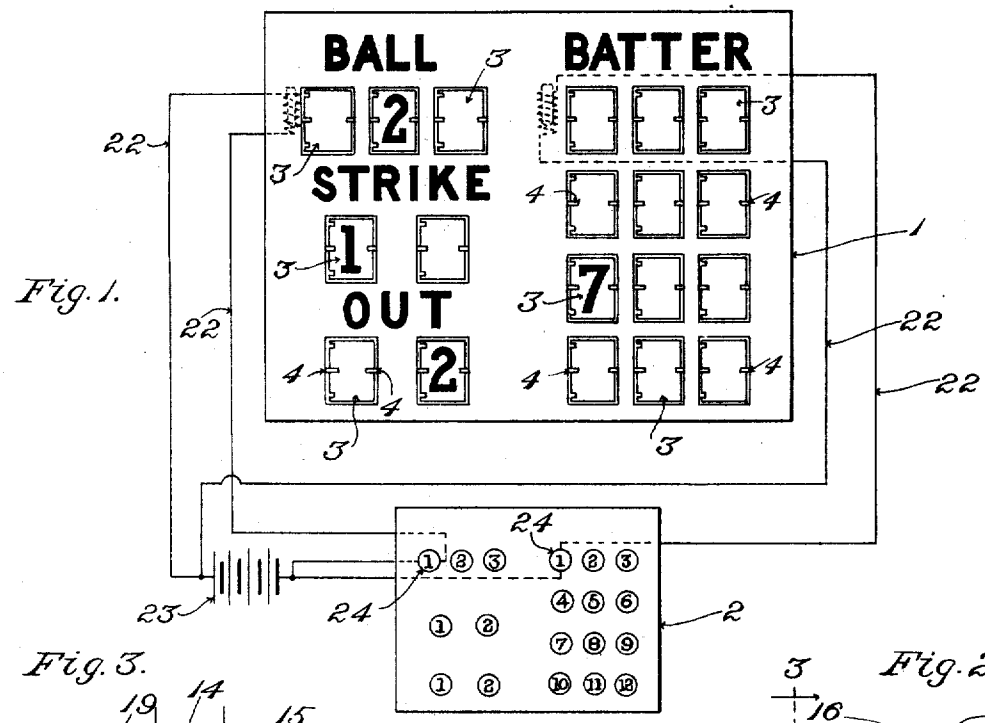

Fig. 1.

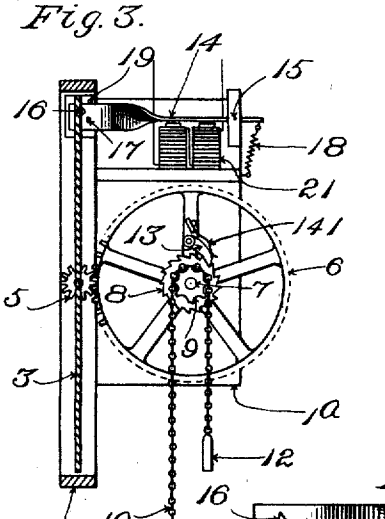

Fig. 3.

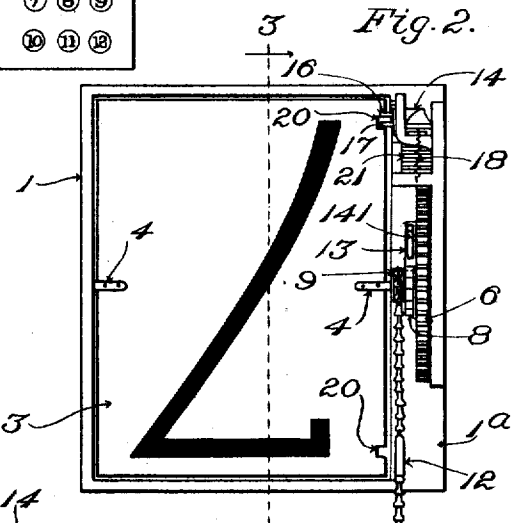

Fig. 2.

Fig. 4.

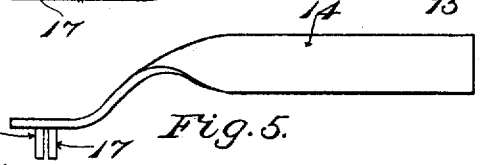

Fig. 5.

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SCORE-BOARD.

No. 911,363. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed April 15, 1908. Serial No. 427,154.

To all whom it may concern:

Be it known that I, GEORGE E. BAIRD, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented a certain new and useful Improvement in Score-Boards, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention is designed more especially for use at a ball-ground or field for the purpose of signaling to all portions, near and far, of an assembled audience the important facts of a game of base-ball, such for instance as the identity of the successive batters, and the different events such as balls, strikes, outs, etc., as they occur in the progress of the game.

An embodiment of the invention is shown in the drawings, in which latter,—Figure 1 is a view on the order of a diagram representing a score-board, a key-board, and a portion of the wiring. Fig. 2 is a view in rear elevation of one of the signaling plates, and the operating devices which are more immediately connected therewith. Fig. 3 is a view in vertical section on dotted line 3, 3, of Fig. 2, looking in the direction that is indicated by the arrows at the ends of such line. Fig. 4 is a detail view of the escapement-arm, detached, in side elevation and on an enlarged scale. Fig. 5 is a plan of the said escapement-arm, also on an enlarged scale.

Having reference to the drawings,—the frame-work of the score-board, proper, is designated 1, the key-board being marked 2. To the score-board are applied the signaling-plates, hereinafter referred to simply as plates, which presently will be described, and the key-board is furnished with keys enabling the desired signals to be displayed at will through the intervention of electrical connections which I will explain.

One of the plates, and the devices more immediately combined therewith, are represented in detail in Figs. 2 and 3. The plate, itself, is designated 3. It is contained within an opening in the frame-work of the score-board, proper, and supported in place by pivots 4, 4, projecting horizontally in opposite directions from its opposite edges at the middle of its height and engaging in bearings which are furnished in the frame-work at the corresponding sides of the opening. One surface of the plate bears a large numeral; the other is blank. When the former surface of the plate is presented at the front of the score-board, the numeral is exposed to the view of the audience, in position to be read. When the blank surface of the plate is presented in front, the numeral is out of sight. For the purpose of enabling the plate to be turned automatically upon its pivot 4, 4, so as to present the respective surfaces thereof at the front, alternately, a spur-pinion, 5, is fixed upon one of the pivots 4, and a spur-gear 6 is mounted upon a supporting-stud 7 carried by a rearwardly projecting portion 1^a of the frame-work, the said spur-gear meshing with the spur-pinion. When the spur-gear is turned, it communicates a turning movement to the spur-pinion and plate. To provide for turning the spur-gear, a ratchet-wheel 8 and connected sprocket-wheel 9 are mounted loosely alongside the spur-gear 6, upon the stud 7, and to the said sprocket-wheel a sprocket-chain 10 is applied, the said sprocket-chain passing over the sprocket-wheel and its ends hanging down at the opposite sides of the latter. A heavy weight 11 is attached to one pendent end of the sprocket-chain, for the purpose of operating the parts when permitted to act, and a lighter weight 12 is attached to the other end of the chain for the purpose of keeping the chain taut and preventing its links from slipping out of engagement with the projecting teeth of the sprocket-wheel 9. A dog or pawl 13 is pivotally hung to the spur-gear 6 and acted upon by a spring 141 which holds such dog or pawl normally in engagement with teeth of the ratchet-wheel 8. The weight 11 tends to descend, and the strain which it transmits through the chain 10 acts with a tendency to cause the sprocket-wheel 9 and ratchet-wheel 8 to turn upon the stud 7. Ratchet-wheel 8, by its engagement with the dog or pawl 13, acts with a tendency to transmit rotary movement to the spur-gear 6, and this tendency is transmitted from the said spur-gear to the spur-pinion 5 and plate 3.

For the purpose of holding the plate 3 from turning, except when it is desired to change the surface thereof which is exposed to view, I provide an escapement arm 14, which is pivoted at 15. This arm is fur-

nished with two laterally projecting detents 16, 17. These detents are located at different heights and in different vertical planes, that designated 16 being somewhat above the other, and nearer the front. A contracting spiral spring 18 having one end thereof connected with arm 14 beyond its pivot and the other end thereof connected with the fixed frame-work acts to hold the working end of the arm elevated against a fixed stop 19. The detent-carrying end of the escapement-arm is arranged to work alongside one side-edge of plate, 3, so that the detents may act in connection with the corresponding marginal portion of the latter. The tendency of the plate to turn under the action of weight 11 keeps the said marginal portion pressed against the leading detent 16. The latter holds the plate stationary. The said marginal portion of the plate has formed therein at each side, radially, of the pivot 4, a notch 20 which is large enough to permit each of the detents 16, 17, to pass therethrough. In the normal position of the escapement-arm, the side-portion or shoulder of the plate which is immediately above the upper notch 20 engages with the upper detent 16. When, however, the arm is depressed slightly, the detent 16 is carried down in front of the notch, releasing the plate so as to permit it to move.

The position of the detent 17 upon the arm 14 is such as to enable such detent to arrest the movement of the plate, almost immediately after the plate has cleared the detent 16, by engagement with the side portion or shoulder of the plate immediately below the notch. So long as the escapement-arm remains in depressed position, the detent 17 will keep the plate from turning farther. As soon, however, as the spring 18 is permitted to swing the escapement-arm upward against stop 19 again, the detent 17 will be moved into line with the notch 20 so as to release the lower shoulder of the latter, and the plate will be allowed to turn until a half-revolution thereof has been completed, whereupon the upper shoulder adjacent the notch which is now uppermost will bring up against the detent 16, now occupying its working position, and the turning movement of the plate will be arrested. By this half-revolution of the plate, the surface which previously was exposed to view in front will be turned to the rear, and the surface which previously was at the rear will be turned to the front. Thus the blank surface, or the other surface with its numeral, may be presented to view whenever desired, by operating the escapement-arm 14 at will.

To enable the escapement-arm to be operated under control from some distant point, I employ an electro-magnet 21, the armature of which is constituted by the arm 14 or carried thereby. The said electro-magnet is electrically connected by wiring 22 with a source of electric energy 23, indicated in the drawings by a conventional representation of a battery, and with a key 24 in connection with key-board 2.

The number of the plates 3, 3, 3, etc., may vary in practice. The drawings show one group, twelve in number, under the head "Batter", a group of three under "Ball", and groups of two each under "Strike" and "Out", respectively. In each instance the plates bear numerals. This is especially advantageous in the case of batters. The numerals may readily be made of a sufficiently large size to be distinguished readily from all the distant portions of a base-ball ground, whereas names upon the plates could not be read except from close at hand. The numbers employed will correspond with those assigned to the players in a printed or other list of the players supplied for the guidance of the audience, as for instance upon the usual score-cards or score-sheets which are employed for keeping the record of a game. The numerals may be replaced by large letters, if desired, in the case of the players. The key-board will be supplied with keys to correspond in number with the plates. In Fig. 1 the keys are arranged, grouped, and numbered similarly to the plates.

I claim as my invention:—

1. A score-board comprising a plurality of signaling plates bearing numbers or letters representing the respective players and main facts of a game, electrical means for exposing the signs upon the said plates and concealing the same, and a key-board by which the said electrical means is controlled to display and conceal individual signs at will.

2. A score-board comprising a plurality of rotatable signaling plates, means for turning the same to reverse the side which is exposed to view, and electrical connections, including a key-board, by which to control the said turning means and actuate the respective plates at will.

3. A score-board comprising a plurality of rotatable signaling plates, means for turning the said plates to reverse the side which is exposed to view, and escapement devices controlling the movement of the respective plates and provided with means for operating the same at will to occasion the desired turning movement of given plates.

4. A score-board comprising a plurality of rotatable signaling plates, means for turning the said plates to reverse the side which is exposed to view, the escapement arm for each plate having the detents which act alternately, and means for operating the said arm at will.

5. In a score-board, in combination, a rotatable signaling plate having a margin there-

of furnished with shoulders and an intervening opening, means for turning the same to reverse the side which is exposed to view, the escapement arm having the two detents for engagement, alternately, with the said shoulders, and means for operating the said arm at will.

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

GEORGE E. BAIRD.

Witnesses:
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