April 20, 1948. E. FRIEDMAN 2,440,042

INDICATING SYSTEM FOR BASEBALL GAMES

Filed March 4, 1947 2 Sheets-Sheet 1

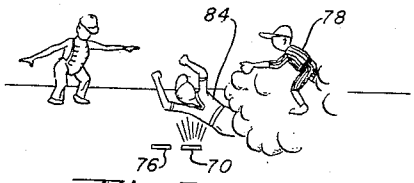
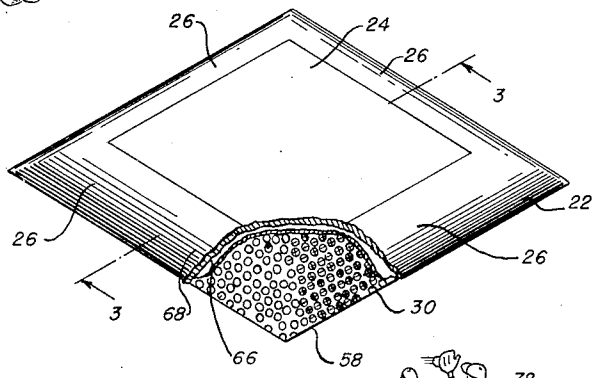



Fig. 9

Fig. 2



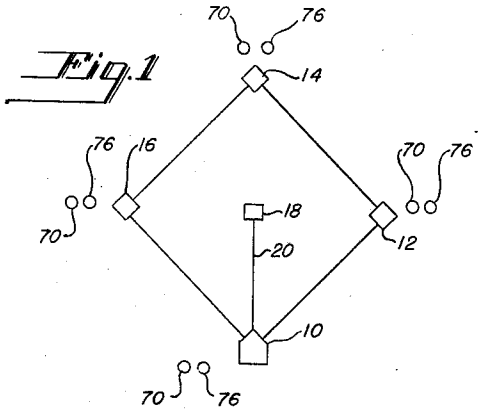




Fig. 1

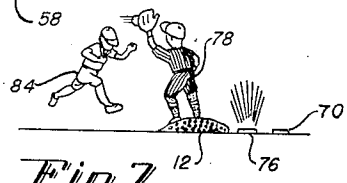



Fig. 7

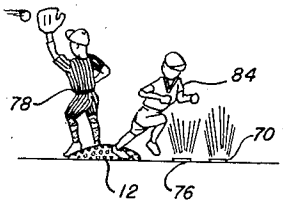



Fig. 8

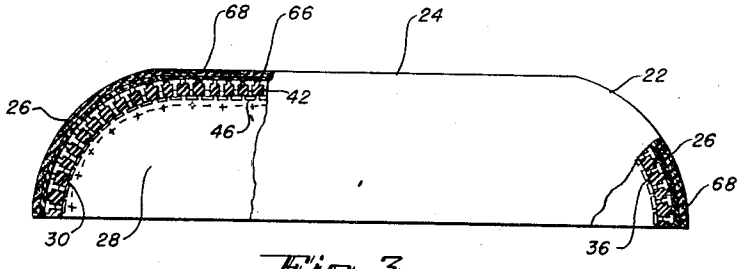



Fig. 3

INVENTOR.
ERNEST FRIEDMAN
BY Allenburn

ATTORNEY

April 20, 1948. E. FRIEDMAN 2,440,042

INDICATING SYSTEM FOR BASEBALL GAMES

Filed March 4, 1947 2 Sheets-Sheet 2

Fig. 4

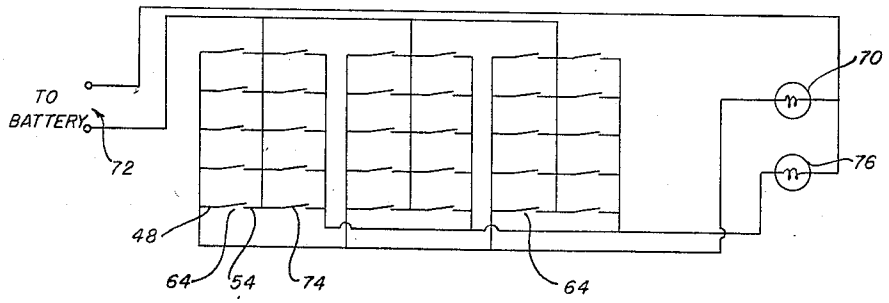
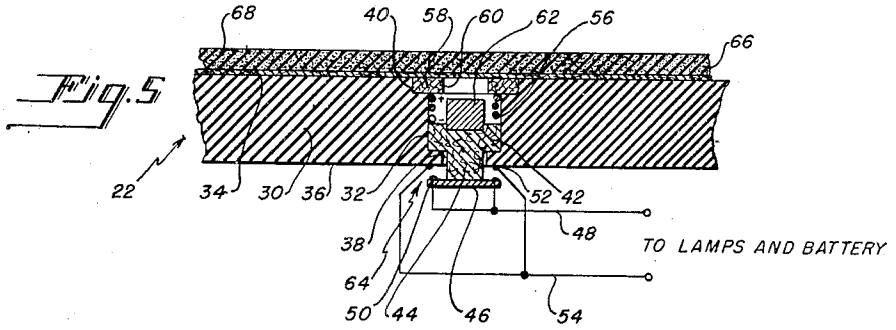



Fig. 5



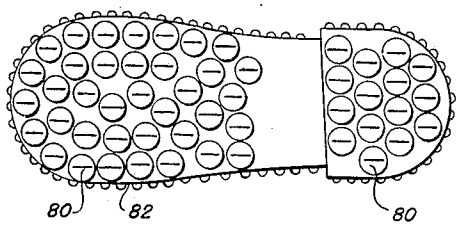




Fig. 6

INVENTOR.
ERNEST FRIEDMAN
BY
ATTORNEY

Patented Apr. 20, 1948

2,440,042

# UNITED STATES PATENT OFFICE

2,440,042

## INDICATING SYSTEM FOR BASEBALL GAMES

Ernest Friedman, New York, N. Y.

Application March 4, 1947, Serial No. 732,249

8 Claims. (Cl. 177—384)

1

This invention relates to baseball games and the like.

An object of the invention is to provide a baseball game having bases which are so constructed and arranged as to indicate positively when a player has a foot on the base.

Another object of the invention is to provide a base for use in playing baseball games and the like, which base is electrified in such a manner that contact therewith by a player will be indicated in a positive visible or audible manner.

A further object of the invention is to provide a baseball base associated with electric lights operable by means of switches contained in the base, the switches being differentially arranged so as to be selectively responsive to magnets contained in the shoes of the players in such a manner that when the shoe of the baseman touches the base one light is illuminated, whereas when the shoe of the runner touches the same base another light is illuminated, thus giving a visual and positive indication as to which player is in contact with the base.

Still another object of the invention is to provide a baseball game and the bases thereof, in which the possibility of error by umpires in determining whether a runner is safe or out, is minimized or substantially eliminated.

Another object of the invention is to provide an electrified base for use in playing baseball, which is simple in design, inexpensive to manufacture, operable by magnetic devices carried in the shoes of the players, and which is positive in operation and safe for use.

Other objects and advantages of the invention will become apparent from the following description of a preferred embodiment thereof as illustrated in the accompanying drawings, and in which,

Fig. 1 is a plan view of a baseball playing field showing the bases and home plate thereof with adjacent indicating lights, according to the invention,

Fig. 2 is a perspective view of one of the bases according to the invention, the view being broken out to show the interior construction thereof,

Fig. 3 is an enlarged sectional view, partly in elevation, taken on line 3—3 of Fig. 2,

Fig. 4 is a schematic wiring diagram of the electric circuits involved in construction and operation of the base and indicating lights,

Fig. 5 is an enlarged fragmentary sectional view of a portion of the base shown in Figs. 2 and 3 and illustrating in detail one of the actuating switches thereof,

Fig. 6 is a bottom plan view of one of the shoes of a baseball player which may be employed in connection with the invention,

Fig. 7 is a view of an incident in a game in which the player is "out";

2

Fig. 8 is a view of an incident in a game in which the player is indicated as "safe"; and

Fig. 9 is a view similar to Fig. 8 but illustrating another incident in a game.

In the course of baseball games a frequent source of contention on the part of the spectators and players is the question as to whether the base runner is "out" or "safe." Thus, when a man at bat has hit the ball and runs to first base, if the ball is caught by the first baseman before the runner reaches first base and places his foot thereon, then the runner is "out." It is consequently of importance to determine, in a close case, whether the runner has placed his foot on first base before the first baseman has caught the ball and simultaneously put his foot on the base.

Depending upon the rules of the baseball game, it is similarly of importance in other instances to determine the relative timing relationship of when the baseman's foot, and the runner's foot, touch the base, in order to determine whether the man is "safe" or "out," this also applying to home plate. It is apparent that if the question of whether the runner's or the baseman's foot touches the base first is visually determined, then the umpire's job is rendered that much easier for it is then only necessary for him to visually observe the position of the ball itself, thus limiting the number of variables which must instantaneously be observed by the umpire to one instead of three as heretofore. This renders more certain and less open to dispute the decisions of the umpires in baseball games. It is noted that the relative placing of the runner's and baseman's feet on the base is clearly visually indicated to all the fans in the ball stadium, thereby permitting them to check on the umpire's decisions.

The present invention discloses a proposed solution of this vexing problem. In order to understand clearly the nature of the invention and the means by which it may be carried out, reference may now be had to the drawings, in which like reference characters denote similar parts throughout the several views. As best shown in Fig. 1, there is a diamond-shaped baseball playing field laid out in the usual fashion as prescribed by the rules of the game therefor, there being a home plate 10, first base 12, second base 14, and third base 16, the pitcher being shown at the pitcher's box 18 as he throws the pitched ball substantially along the line 20 toward the batter who stands substantially in front of the home plate 10.

A baseman is stationed at each base, and the catcher is similarly stationed at the home plate, other players such as the short stop, infield and outfield players being disposed about on the playing field to intercept the batted ball.

The bases and the home plate according to my

invention, may be formed as shown at 22 in Figs. 2, 3 and 5, the base having a generally rectangular shape with a platform or top 30 supported by rounded sloping side walls 26, to define a hollow base housing having an interior chamber 28. The housing platform 30 and side walls 26 are made of a relatively rigid material which may be cast, molded, or otherwise conveniently formed of non-magnetic material. The walls 30 and 26 of the said housing are provided with a relatively large number of spaced bores 32 as best shown in Fig. 5, the bores extending from the outer surface 34 of the house to its inner surface 36, each bore being reduced at 38 and enlarged at 40.

A plunger 42 formed of any suitable insulating material such as molded fibre, hard rubber or the like is disposed in each bore with its enlarged upper end portion axially movable in the intermediate portion of the bore, and with its reduced lower shank portion 44 extending downward through the reduced bore 38 and protruding downwards therefrom as shown in the view, when the plunger 42 is in its lowermost position. A metallic disc 46 having a diameter greater than that of the lower reduced bore 38, is securely fastened to the lower end of the plunger shank 44, the disc being electrically connected to the lead wire 48.

The disc 46 is provided with electrical contacts 50 for cooperatively making contact with contact points 52 on the lower surface 36 of the housing when the disc is moved upwards, the stationary contacts 52 being connected to a lead wire 54. A spring 56 has its lower end bearing against the upper end surface of the plunger 42 to bias it downward, the spring being retained in the bore by means of a non-magnetic plug 58, which is secured in any suitable manner in the enlarged bore 40. The plug 58 has an axial aperture 60 to receive a magnet 62 which is secured at its lower end portion in a recess formed in the upper end surface of the movable plunger 42.

The walls of the housing thus have a large number of spaced bores each containing a downwardly or inwardly biased plunger carrying a magnet, and each having stationary contacts 52 and movable contacts 50 forming a switch 64 which may be closed when the plunger is elevated. Elevation of the plunger to close the switch is accomplished by applying a magnetic force to the magnet 62 to draw it upwards into the bore 60. Inasmuch as the illustration in Fig. 5 shows the positive pole of the magnet uppermost, it is apparent that bringing the negative pole of another magnet into proximity to the positive pole of the magnet 62 will cause it to be attracted thereto and hence elevated, closing the switch 64.

The outer surface 34 of the housing may be covered with sheet material 66 in the nature of waterproof canvas, or leather to form a sealing sheet to keep out rain and moisture, and this is in turn covered by an outer fabric sheet 68 of soft shock absorbing material such as felt, in order to protect the players from any injuries which might result from sudden collision therewith.

The wires 48 and 54 are connected in a circuit including an indicator lamp 70 and a source of electrical power such as a batter at 72, or any other suitable source of electrical energy, so that closing of the switch 64 will light the lamp 70 which may be colored red. The next bore 32 in the housing may have its magnet inverted, with its negative pole uppermost, in order to close its plunger actuated switch 74 when the positive pole of an outside magnet is brought near it, the plunger and switch contacts being otherwise identical with the arrangement shown in Fig. 5. However, it will be noted from Fig. 4, that the switch 74 will, when closed, cause the other lamp 76 to be illuminated, the latter lamp being otherwise colored, such as, for example, green to distinguish from lamp 70.

All of the magnetic switch units shown in Figs. 2, 3 and 5 are preferably alternately oppositely polarized. Therefore, in accordance with my invention, the said switch units may be selectively actuated by providing the baseman 78 with shoes having negatively oriented magnetic buttons 80 on the soles and heels and also along the edges 82 of the soles and heels, whereby as the baseman places his shoe in contact with any part of the base at least one of the positively oriented magnets shown in Fig. 5 will be attracted thereby and drawn upwards to close a switch 64, thereby illuminating the red indicator lamp 70, alongside the base.

Similarly, in accordance with my invention, it is noted that if the opposing team runner 84 is provided with shoes the magnetic buttons 80 of which are positively oriented to attract the negatively oriented magnets in the recesses of the plungers, then contact of his shoe with the base will actuate at least one of the switches 74 to illuminate the green lamp 76. Referring now to the situations depicted in Figs. 7, 8 and 9, it will be seen that in Fig. 7 the baseman 78 has his foot on the base, illuminating the lamp 76 first, whereas the other lamp 70 remains unlighted since the runner 84 has not yet touched the base with his foot. Since the lamp 76 is already illuminated and the ball is shown as just being caught by the baseman, it is a clear indication to the umpire and spectators that the runner is "out."

In Fig. 8, both lamps 70 and 76 are lighted, indicating that both the first baseman and the runner have their feet on the base, and the umpire must rule that the runner is safe since the ball has not yet reached the glove of the baseman.

Fig. 9 illustrates a situation where the runner 84 is sliding feet first into the base. By the fact that the lamp 70 is lighted the umpire can see that the runner's foot has touched the base despite the cloud of dust. It is obvious to the umpire and to the spectators that the runner is safe.

It is thus seen that use of my improved indicator device at each base and the home plate, as described, simplifies the work of the umpires by enabling them and the audience to see instantly which player touches the base first and allows them to give more attention to the position of the ball itself.

Although I have described a preferred embodiment of my invention in specific terms, it is to be understood that various changes may be made in size, shape, materials and arrangement without departing from the spirit and scope of the invention as claimed.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. A baseball game device comprising a pair of indicator members, the first of which is different from the second, a base housing, a first plurality of normally open switches disposed in said base housing and operatively connected to said first indicator member and to a source of power for actuating said first indicator member, a second plurality of normally open switches disposed in

said base housing and connected to said second indicator member and to a source of power for actuating said second indicator member, and magnetic means carried jointly by said housing and by a baseman for actuating said first indicator member upon contact with the base by the baseman, and magnetic means carried jointly by said housing and by a base runner for actuating said second indicator member upon contact with the base by the base runner.

2. A baseball game device comprising a pair of lights the first of which is of one color and the second of which is of a different color, a base housing, a first plurality of normally open switches carried by said base housing and connected to a source of power and to said first light, a second plurality of normally open switches carried by said base housing and connected to a source of power and to said second light, said first plurality of switches being magnetically polarized in one direction, oppositely polarized magnets carried on the shoes of the baseman for actuating at least one of said first plurality of switches to illuminate said first light upon contact of the baseman's shoe with the base housing, said second plurality of switches being magnetically polarized in a direction opposite to that of the first plurality of switches, magnets carried on the shoes of the base runner which are polarized oppositely to said second plurality of switches for actuating at least one of said second plurality of switches to illuminate said second light upon contact of the base runner's shoe with the base housing.

3. A baseball game device comprising a pair of lights the first of which is of one color and the second of which is of a different color, a base housing including an inner casing, a first plurality of positively polarized normally open magnetic switches in said casing and connected to the first of said lights and to a source of electric power, a second plurality of negatively polarized normally open magnetic switches in said casing and connected to the second of said lights and to a source of electric power, shoes wearable by the base man and having negatively polarized magnetic bodies on the soles and heels thereof for actuating at least one of said second plurality of switches to illuminate the second light upon contact of said shoe with the base housing.

4. The construction of claim 3 in which said inner casing has a plurality of spaced apertures formed therein for the reception of one of said magnetic switches in each aperture.

5. The construction of claim 3 in which said inner casing has a plurality of spaced apertures formed therein for the reception of one of said magnetic switches in each aperture, said positively and negatively polarized switches being intermingled in their disposition about the area of said inner casing.



6. The construction of claim 3 in which said inner casing has a plurality of spaced apertures formed therein for the reception of one of said magnetic switches in each aperture, said positively and negatively polarized switches being intermingled in their disposition about the area of the said inner casing, a weather protective coating layer disposed upon the outer surface of said inner casing, and a yielding relatively soft outer layer disposed upon the outer surface of said weather protective coating layer to protect said players against injuries due to sudden collision therewith.

7. The construction of claim 1 in which said base housing comprises an inner casing of relatively stiff material, a weatherproof sealing sheet layer disposed over said inner casing, and an outer layer disposed over said sealing sheet layer and formed of relatively soft yielding material.

8. A baseball game device comprising a pair of lights, the first of which is of one color and the second of which is of a different color, a base housing formed of an inner casing made of relatively stiff material, a weatherproof intermediate coating layer disposed over said inner casing, and a relatively soft yielding outer layer of material disposed over said intermediate coating layer, said inner casing having a plurality of bores formed therein, a plurality of downwardly spring biased plungers movably disposed in some of said bores and carrying movable electrical contacts thereon, magnets securely carried on the upper end portions of said plungers, stationary contacts carried by and insulated from said inner casing for forming with said movable contacts a normally open switch, a first plurality of said magnets being positively polarized and having their switches connected to a source of power and to the first of said lights, a second plurality of said magnets being negatively polarized and having their switches connected to a source of power and to the second of said lights, basemen's shoes having negatively polarized magnetic bodies for actuating at least one of said positively polarized first plurality of switches to illuminate said first light upon contact of the shoe with the base housing, and base runner's shoes having positively polarized magnetic bodies for actuating at least one of said negatively polarized second plurality of switches to illuminate said second light upon contact of the shoe with the base housing.

ERNEST FRIEDMAN.

## REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS


| Number | Name | Date |
|---|---|---|
| 1,458,180 | Hammond | June 12, 1923 |
| 2,427,213 | Jewell | Sept. 9, 1947 |