

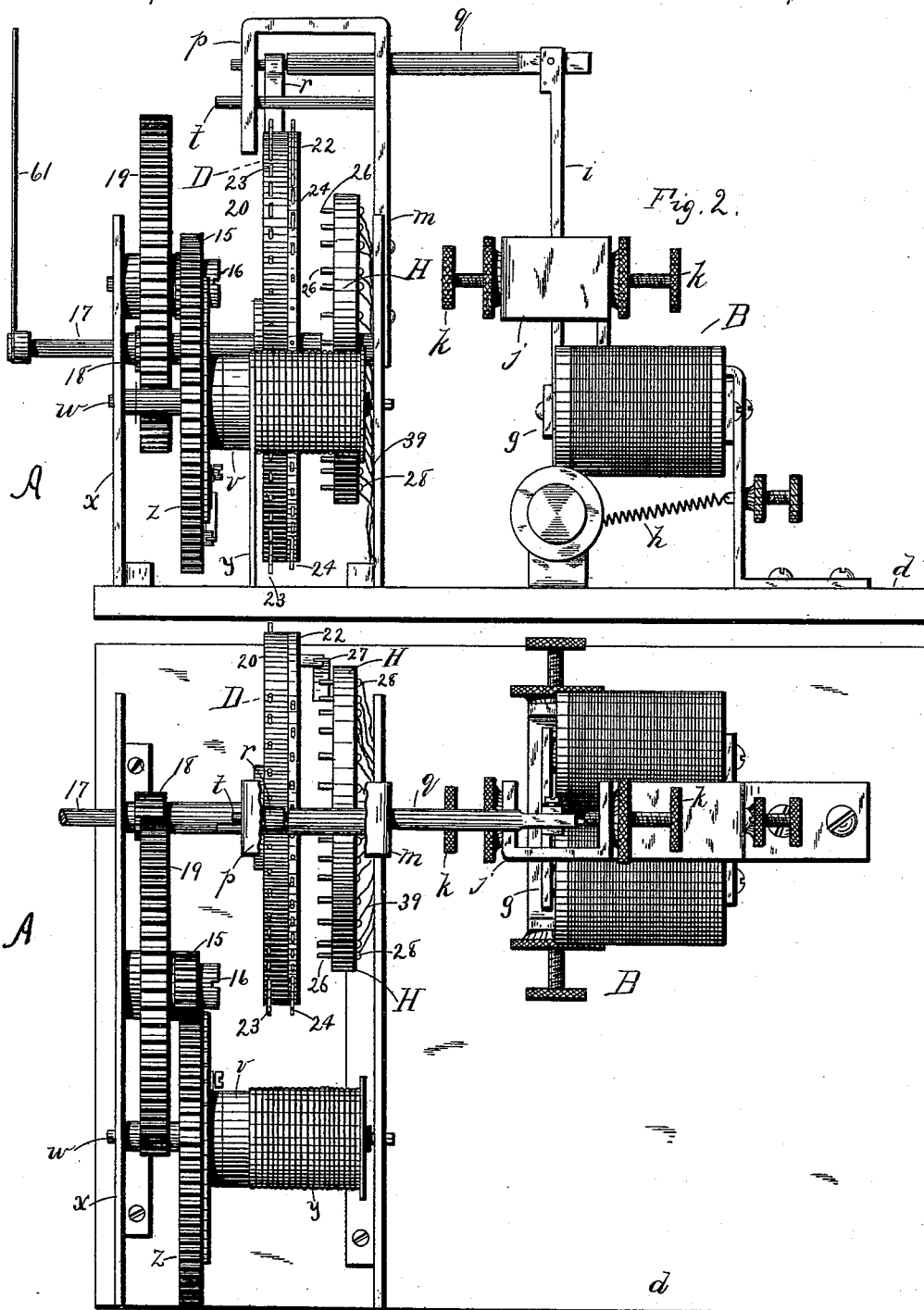
(No Model.)

3 Sheets—Sheet 1.

J. L. CUTLER.
BASE BALL INDICATOR.

No. 463,491.

Patented Nov. 17, 1891.



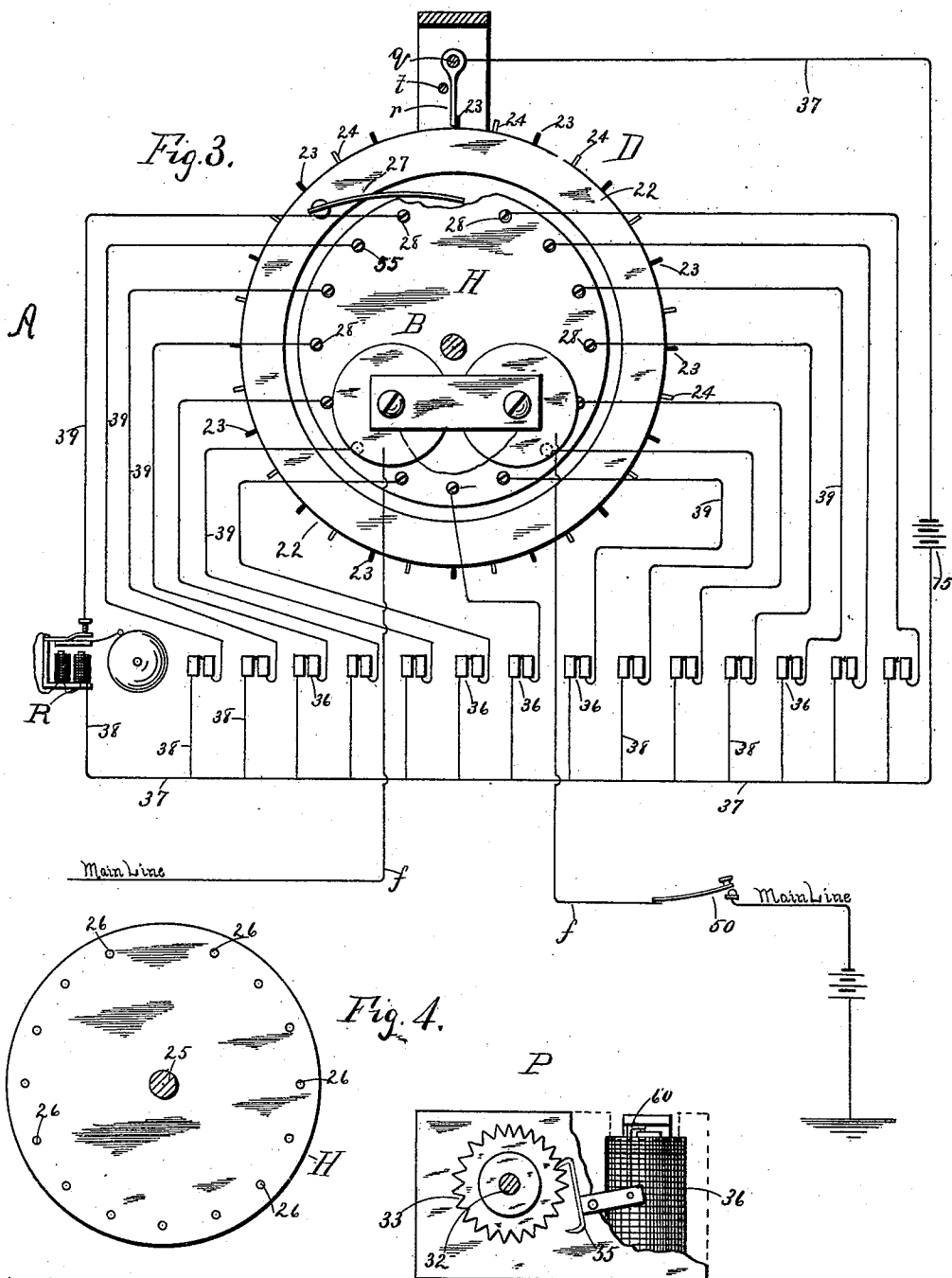
WITNESSES
Livingston H. Fay.
J. D. Matthews.

Fig. 1. INVENTOR
James L. Cutler
By *C. A. Shaw & Co.*
ATTYS

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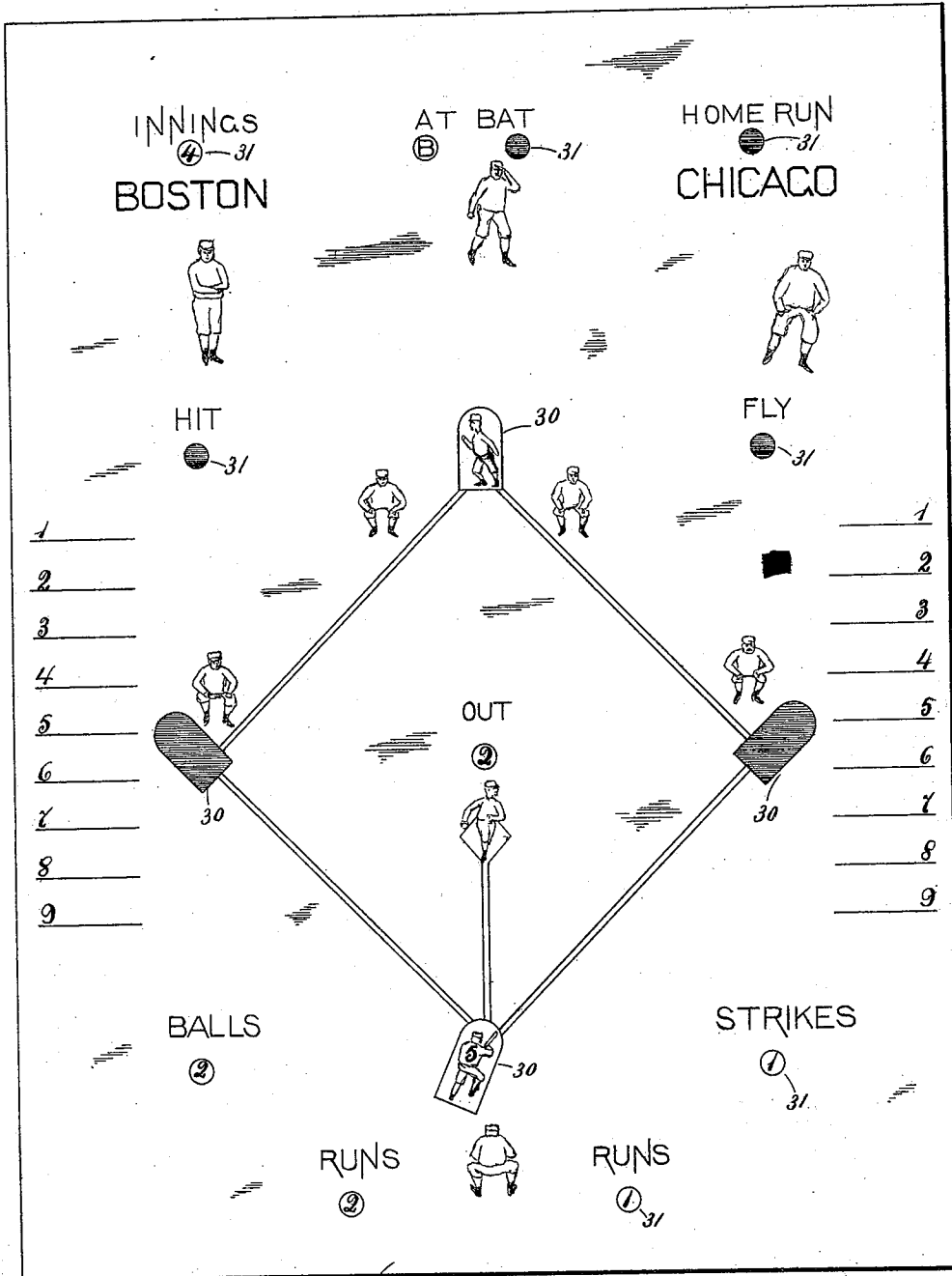
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WITNESSES
Livingston H. Day
J. D. Matthews

Fig. 6. INVENTOR
James L. Cutler
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UNITED STATES PATENT OFFICE.

JAMES L. CUTLER, OF PIKETON, OHIO.

BASE-BALL INDICATOR.

SPECIFICATION forming part of Letters Patent No. 463,491, dated November 17, 1891.

Application filed February 24, 1891. Serial No. 382,525. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. CUTLER, of Piketon, in the county of Pike, State of Ohio, have invented certain new and useful Improvements in Base-Ball Indicators, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of the "telephone" or current-directing apparatus; Fig. 2, a side elevation of the same; Fig. 3, a diagram showing the circuits; Fig. 4, an elevation of the inner face of the insulator-disk; Fig. 5, an elevation of one of the local magnets and ratchets, and Fig. 6 a front elevation of the indicator-board.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to a device for automatically displaying by telegraphing on indicator-boards located at determined stations the various plays of base-ball games, races, and similar sports.

In carrying out my invention I make use of a portion of the telephone or apparatus for electrical communication, shown and described in my United States Letters Patent numbered 426,989, dated April 29, 1890.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the telephone considered as a whole, which is partly of the same construction and operation as in Letters Patent referred to, but using only the main-line and local circuits, as hereinafter described, and dispensing with the restoring and maintaining circuits and their mechanism shown in said Letters Patent.

An electro-magnet B is mounted on a base *d* in the circuit of the main-line wires *f*, Fig. 3. The magnet has a pivoted armature *g*, tensioned by a spring *h*. (Shown in Fig. 2.) A vertical arm *i* is secured to the magnet and

oscillates in a loop *j* on the magnet-frame. Thumb-screws *k*, passing through said frame, limit the movement of said arm.

A vertical standard *m* is secured to the base in front of the magnet, its horizontal head being provided with a pendent arm *p*. A longitudinally-sliding rod *q* is mounted horizontally in said standard and arm, one end thereof being pivoted to the armature-bar *i*.

Adjacent to the arm *p* a pawl *r* is pivoted on the rod, said pawl being free to swing in one direction or from left to right, as viewed in Fig. 3, and stopped by a pin *t* in said arm and standard from swinging in the opposite direction.

A drum *v* is mounted on a shaft *w*, journaled in the standard *m* and a standard *x*. Said drum is rotated by a cord *y*, passing through the base, to which a weight (not shown) is attached. A gear *z*, mounted on the shaft *w*, meshes with a pinion 15 on a stub-shaft 16 in the standard *x*. A rotary shaft 17 is journaled in the standard *x*, and is driven by a pinion 18 thereon meshing with a gear 19 on said stub-shaft.

A rotary carriage or switch D is mounted on the inner end of the shaft 17 and comprises a hard-rubber wheel 20, on the inner face of which a ring 22, of brass or other conducting material, is secured. A series of radially-arranged stop-pins or projections 23 is mounted peripherally on the wheel 20, and a similarly-arranged series of conducting-pins 24 is mounted on the ring 22, the pins 23 alternating with the pins 24. An insulating pin 23 is normally in engagement with the pawl *r*. Mounted on the standard *m* there is a hard-rubber insulating-disk H, its hub 25 being in alignment with the shaft 17. A series of platinum pins 26, corresponding in number with conducting-pins in ring 22, project through the disk toward the carriage D. A brush 27, secured to the conducting-ring 22 of the carriage D, has its free end so disposed that it will contact with the platinum pins 26 in disk H when the pawl *r* contacts with corresponding pins 24 of the ring 22. Said pins may have screw-threads 28 on the opposite side of the disk for securing local-circuit wires thereto, as in Fig. 3, or ordinary binding-

screws may be employed disposed in contact with said pins.

A bulletin-board K (see Fig. 6) has the representation of a base-ball field or diamond inscribed thereon with the players in position.

Openings 30 are formed in the board at the bases and circular openings 31 at various points on the board, said openings being designated by various terms employed for different plays in the game. Behind each opening and arranged to be exposed therein there is a disk or plate having a blank space and a space imprinted with a numeral, color, or symbol adapted to be displayed in said opening. Such disk is mounted on an arbor 32, (see Fig. 5,) journaled in a bracket attached to the bulletin and bearing a ratchet 33. A double-tooth actuating-pawl 35 is pivoted to said bracket, and an electro-magnet 36 is mounted thereon. One end of the pawl is pivoted to the armature 60 of said magnet. The disk of each opening is provided with a magnet 36 and actuating mechanism. A conducting-wire 37 is connected to one pole of local battery 75, and from the other pole it is connected with one coil of each of the local-circuit magnets 36 by wires 38. The opposite coil of each magnet is connected by a wire 39 with consecutive contacts 28 on the disk H, as shown in the diagram in Fig. 3. The actuating mechanism P of each bulletin-disk is thus disposed in an independent local circuit. An electric bell R is connected in like manner as the magnets 36.

Each bulletin-disk has an independent individual call consisting of a predetermined number of electrical impulses of "dots and dashes," which, when transmitted over the main line *f* by the key 50 in a central office, will close the local circuit of such particular disk and actuate the same without effect on the remaining disks of the bulletin. This is accomplished by the following means: For example, the carriage D being at zero or starting-point, the call for the bell R may be a single "dash," which, formed by the key 50, charges the magnet B. The rod *q* is moved by the armature *g*, drawing the pawl *r* with it and releasing the carriage D, which is at once rotated by the weight-actuated mechanism from right to left, as viewed in Fig. 3. This brings the first pin 24 on the conducting-ring 22 of said carriage into contact with said pawl, closing the local circuit through said pin and ring, the brush 27, and pin 26, which has been brought into contact with said brush as the carriage advanced through wire 39, through bell R, and wires 38 and 37, battery 75, and pawl *r*. The call for a certain play, as that denominated "Hit" on the bulletin, may, for illustration, be a "dot and dash." The dot being transmitted by the key, the pawl *r* is moved laterally, as described, over the conducting-ring; but the impulse being so short the armature is released and said pawl returned so quickly that it escapes contact with the first

conducting-pin 24, and consequently does not close the bell-circuit. The dash being then transmitted, the pawl is again advanced and contacts with the second pin 24 in the series. The local circuit for the determined bulletin-disk is thus closed through pawl *r*, pin 24, ring 22, brush 27, second pin 26, (denominated 55 in Fig. 3,) thence through the corresponding wire 39 to the actuator P of said disk, thence through wires 38 and 37, through battery, to the pawl *r*. The magnet 36 of the actuator P being thus charged, its armature-pawl 35 moves the ratchet 33 and corresponding bulletin-disk to display a numeral or symbol in the opening. It will thus be seen that by transmitting any determined call by the key 50 the play designated by such call may be displayed in the proper opening on the board K without moving any of the adjacent mechanism, the dots of such calls each causing the contact-pawl to pass a pin 24 of the carriage, and the dashes thereof completing contact between said pawl and a succeeding pin 24. The shaft 17 may be provided with an index 61, (shown in Fig. 2,) which serves to indicate to the operator on a properly-spaced dial (not shown) the character of the call last made or the relative position of the carriage D.

Any number of bulletins and telephones may be interposed in the main line at various points and operated conjointly from the main office.

I do not confine myself to the application of the mechanism described to a base-ball bulletin, as such bulletin may be employed for displaying the progress of races or other sports, stock-quotations, and for similar purposes, the designation of the bulletin openings and symbols on the disks being changed to conform thereto.

Having thus explained my invention, what I claim is—

1. In a device of the character described, the combination of a main line with a mechanically-actuated and electrically-released rotary carriage or switch provided with a double series of non-conducting and conducting projections, a vibrating contact-pawl adapted to engage said projections and controlled by the main-line circuit, a series of local circuits respectively adapted to be closed by the contact of said pawl with corresponding conducting-pins, a bulletin provided with display-openings, and actuators in said local circuits adapted to display characters or blanks in said openings, substantially as described.

2. A base-ball bulletin having designated display-openings, in combination with actuators for displaying characters in said openings and respectively disposed in independent local electric circuits, a mechanically-actuated electrically-released rotary carriage provided with two series of conducting and non-conducting projections, a magnetically-controlled contact-pawl for engaging said projections,

and mechanism actuated by said carriage for closing determined local circuits, substantially as set forth.

5 3. The main-line and local circuits, in combination with the telephone provided with the rotary carriage D, having projections 23 and 24, the magnetically-controlled contact-pawl for engaging said projections, actuating mechanism for said carriage, a bulletin K, provided

with display-openings, plates exposed in said openings, and the actuators P for said plates, said actuators being respectively disposed in independent local circuits.

JAMES L. CUTLER.

Witnesses:

O. M. SHAW,
K. DUFFEE.