

(No Model.)

3 Sheets—Sheet 1.

M. D. COMPTON.

ELECTRICAL AMUSEMENT REPORTING APPARATUS.

No. 435,964.

Patented Sept. 9, 1890.

Fig. 1.

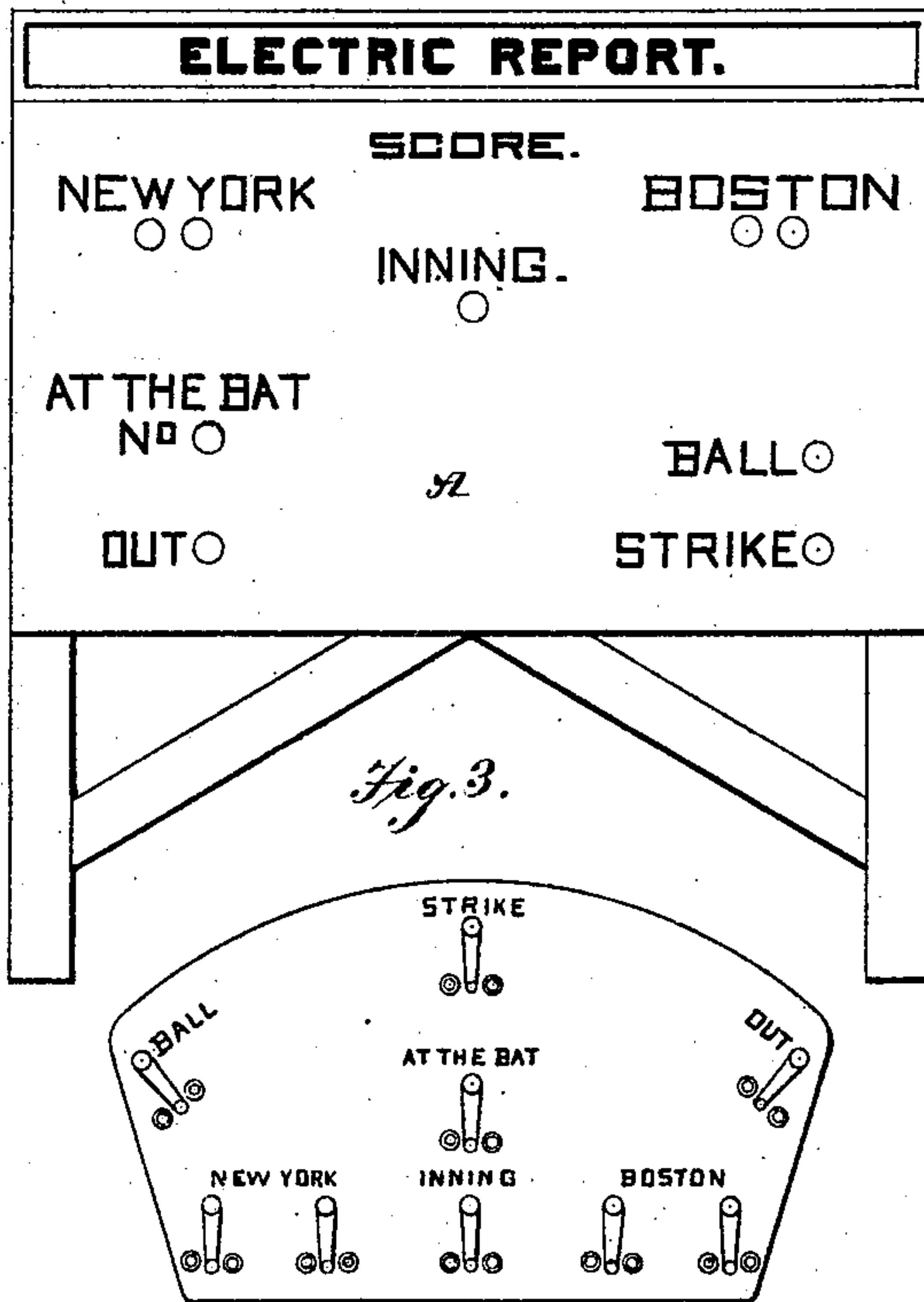
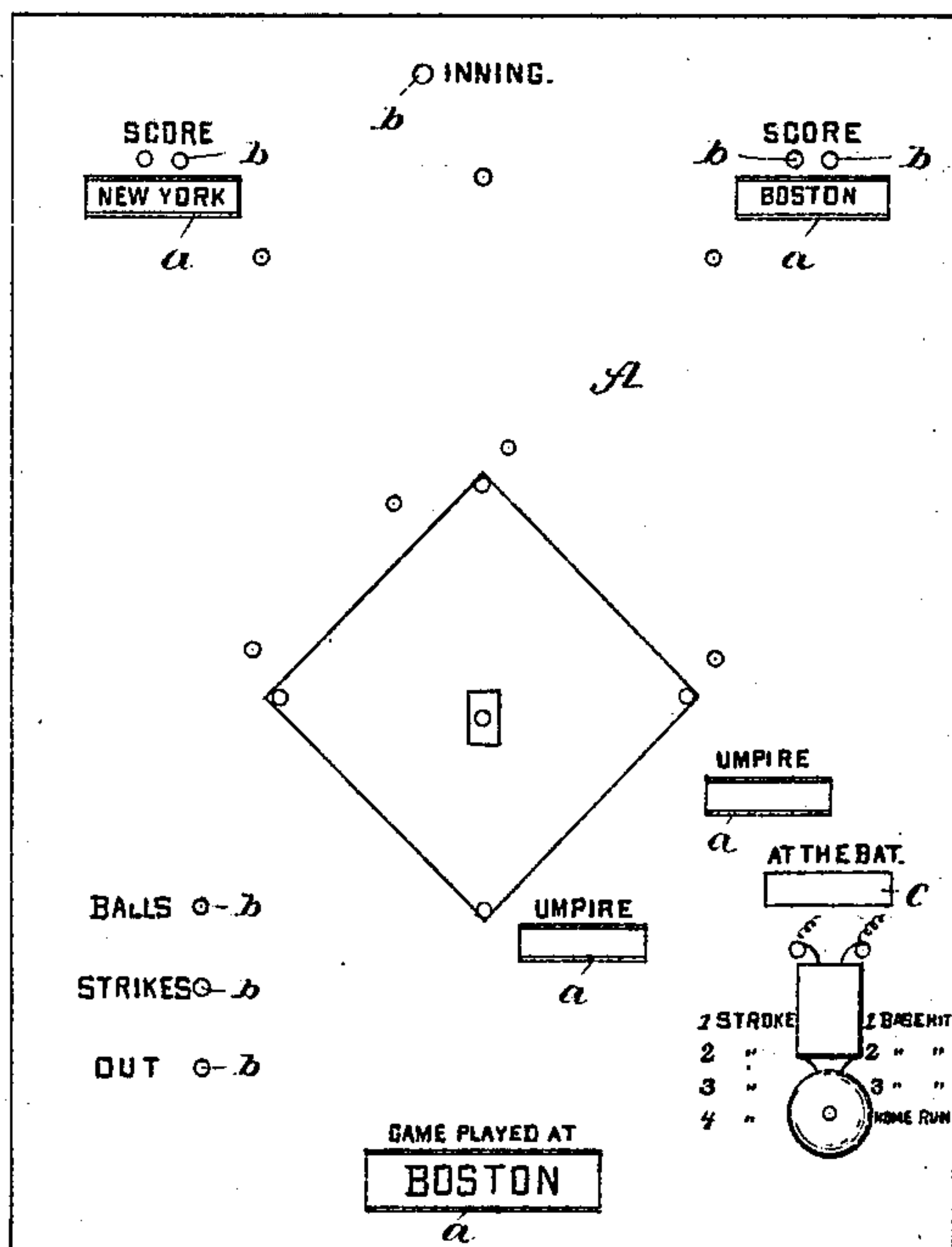
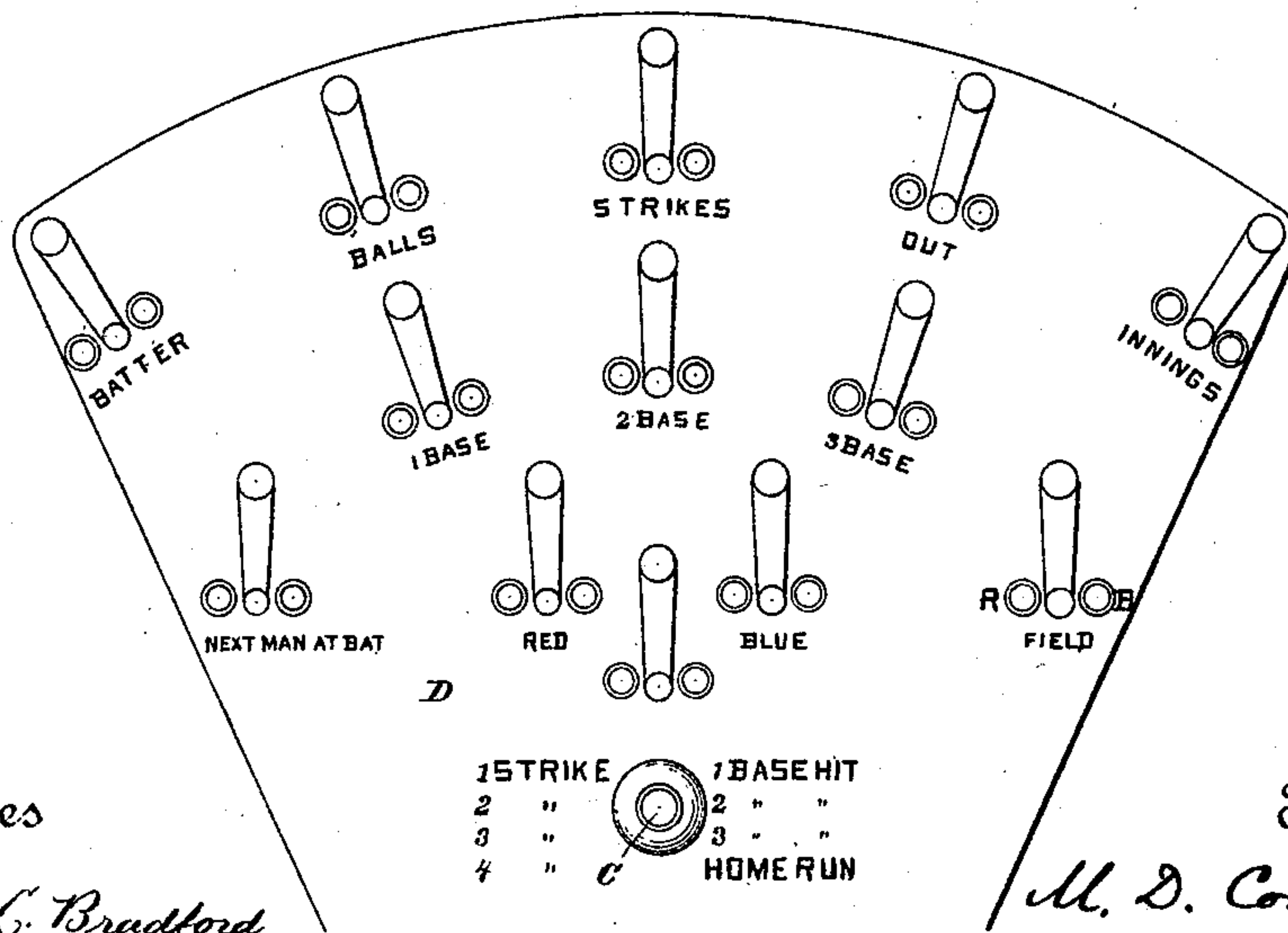


Fig. 2.



Witnesses

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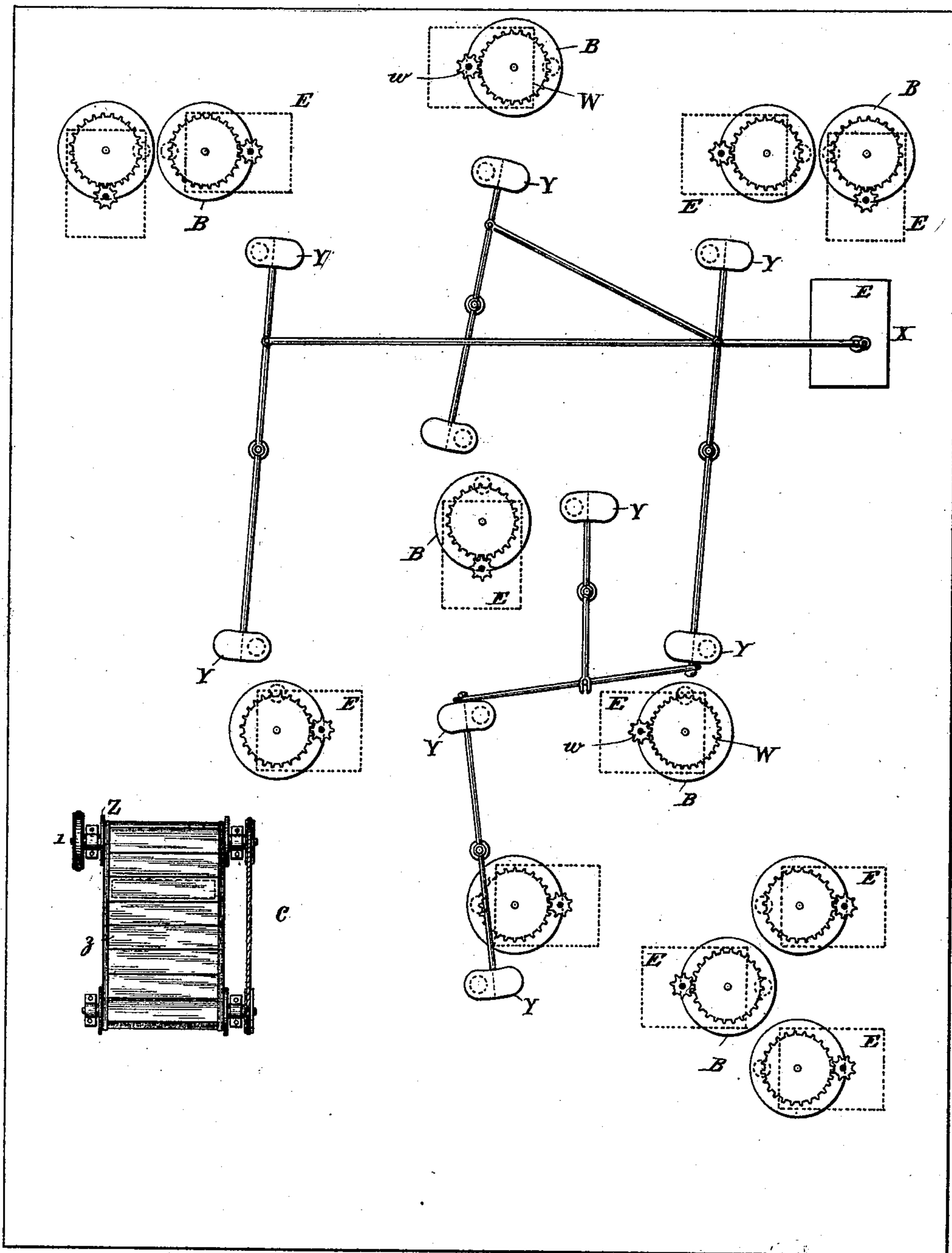
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Fig. 4.



Witnesses.

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Fig. 5.

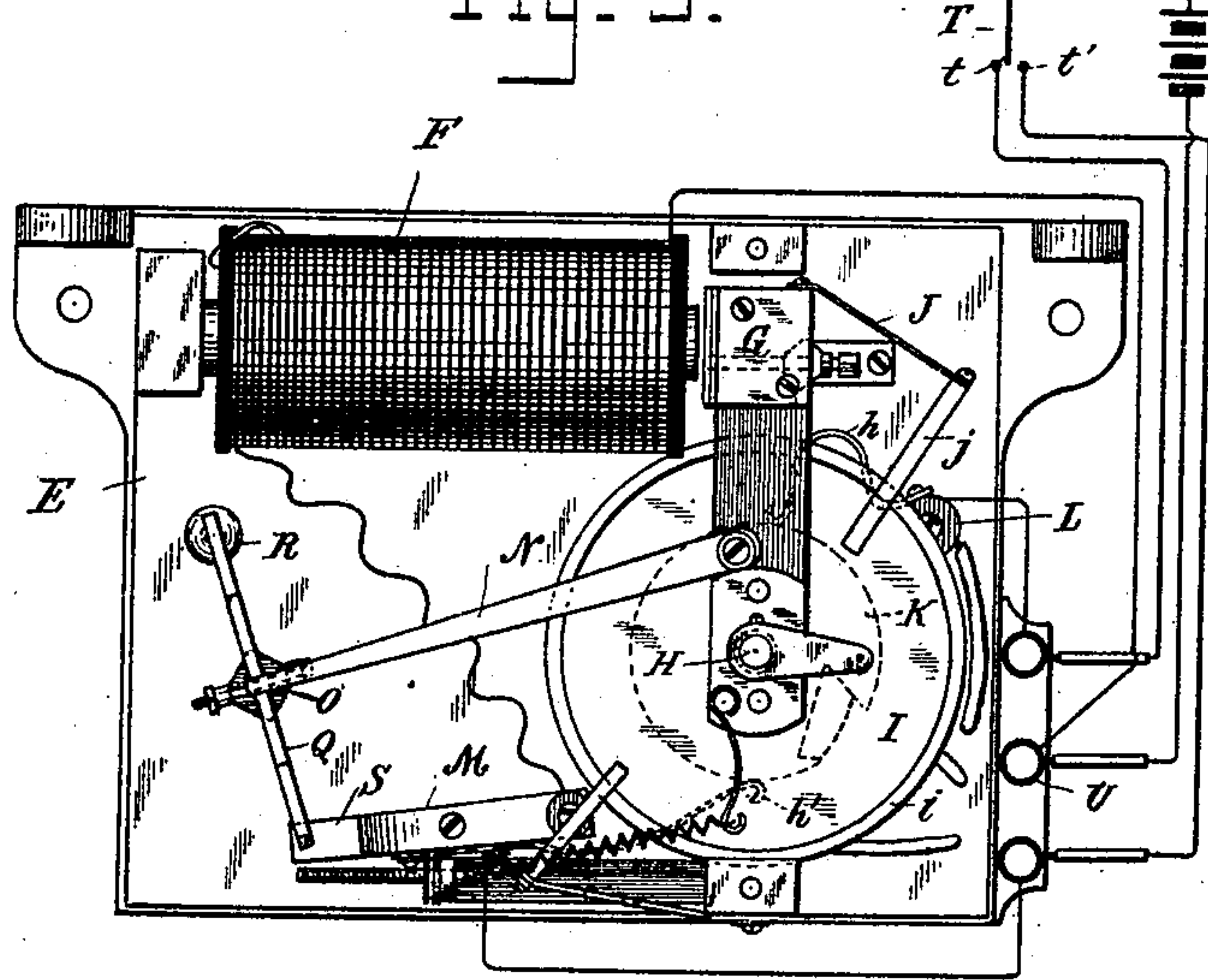


Fig. 6.

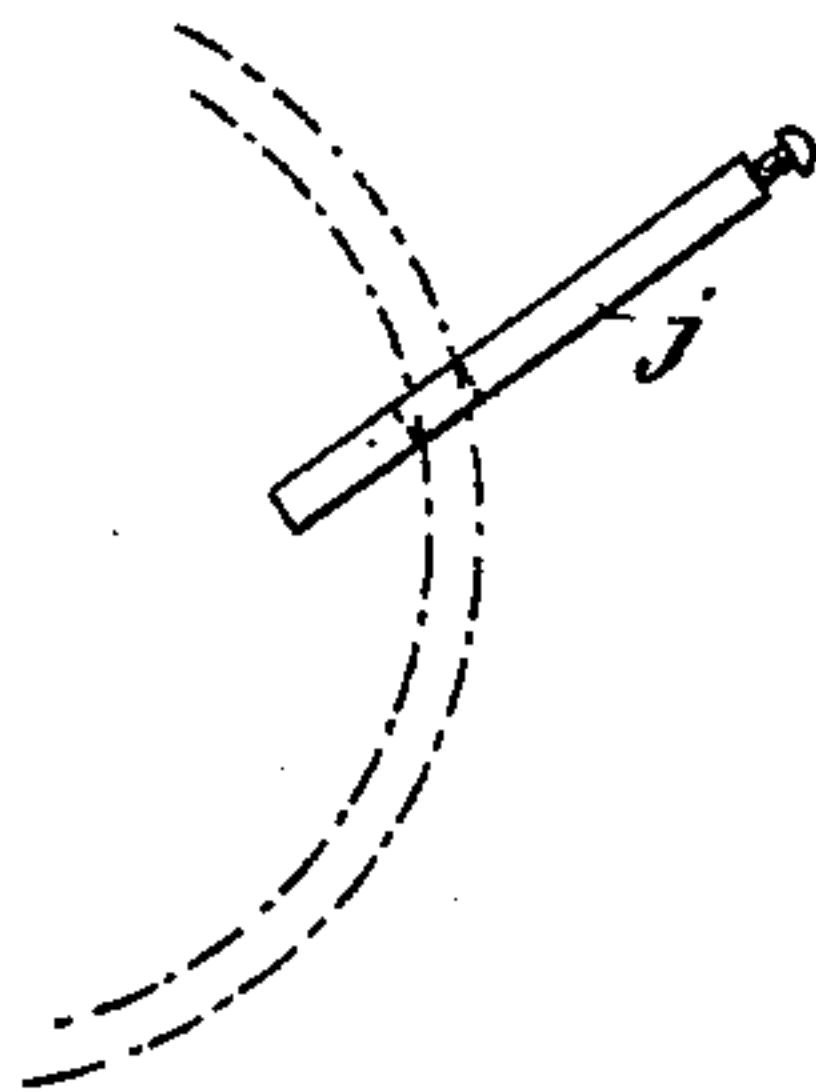


Fig. 7.

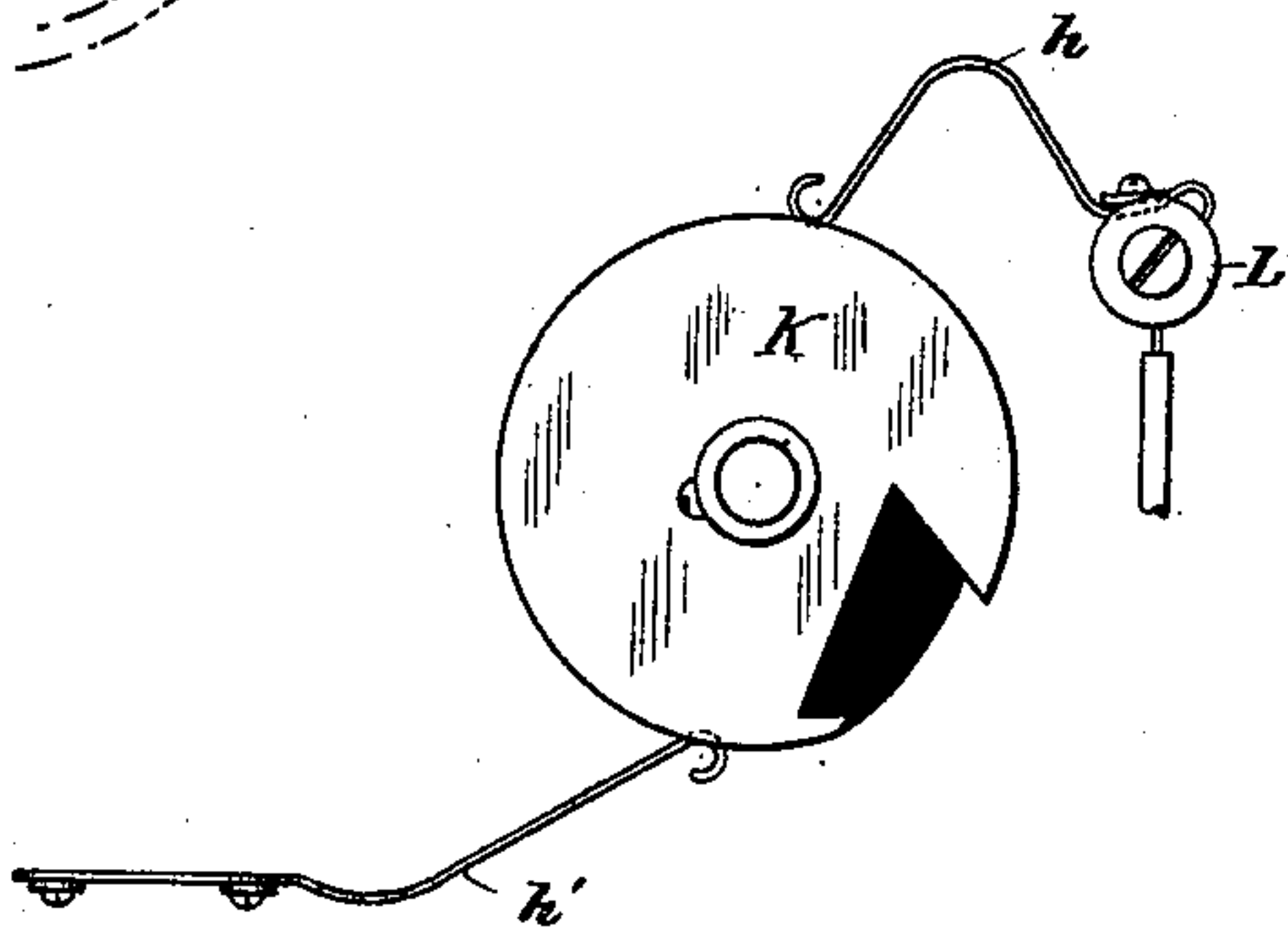
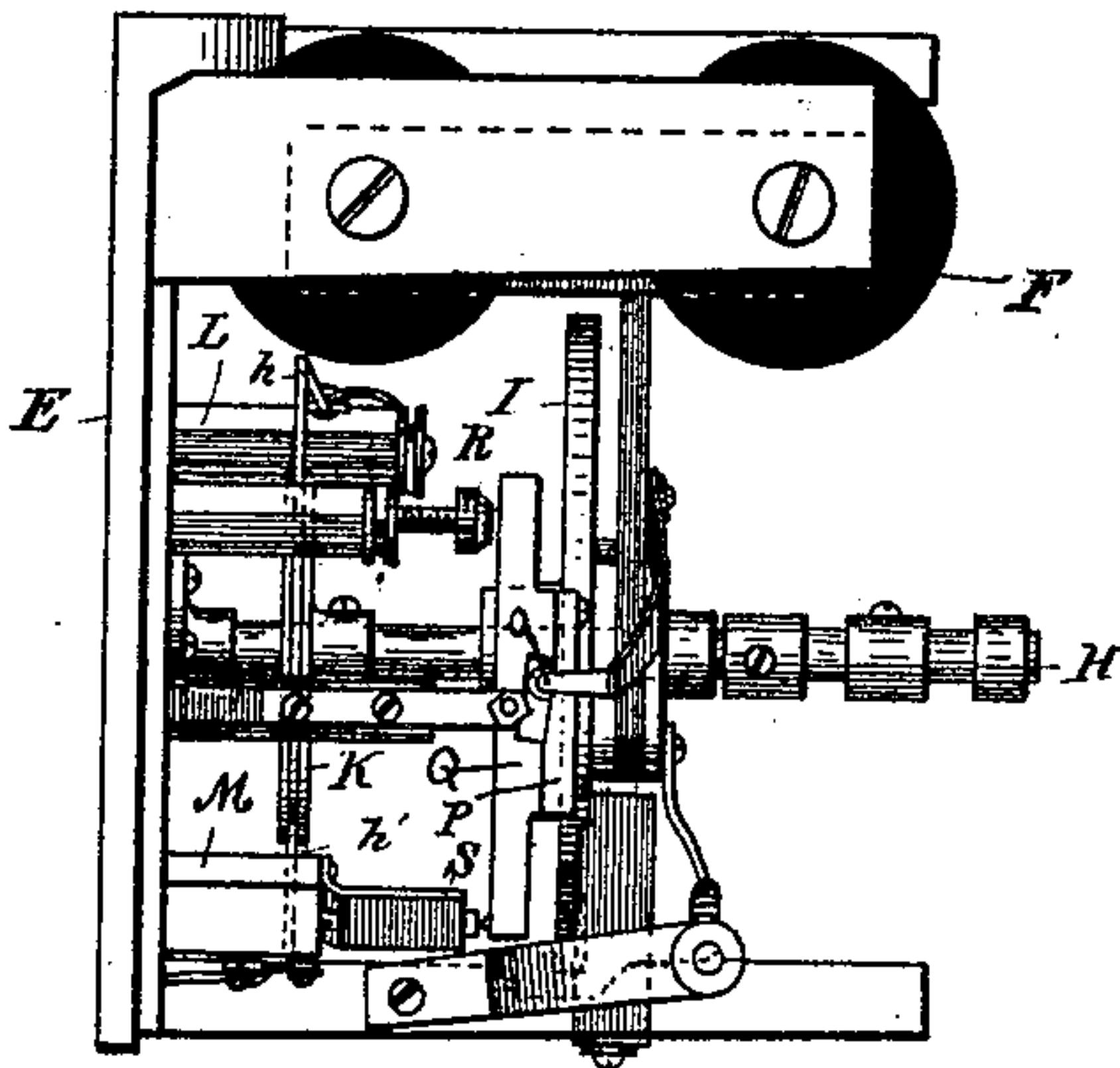


Fig. 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

MELVIN D. COMPTON, OF NEWARK, NEW JERSEY.

ELECTRICAL AMUSEMENT-REPORTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 435,964, dated September 9, 1890.

Application filed June 10, 1890. Serial No. 354,967. (No model.)

To all whom it may concern:

Be it known that I, MELVIN D. COMPTON, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Electrical Amusement-Reporting Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to systems and apparatus for reporting ball games or similar sporting events, and its special object is to enable a full report of such games to be made in sight of a large number of spectators and at the same time to dispense with one or more of the assistants now required in reporting such games. At present it is customary for an operator to sit in front of an exhibition-board and direct an assistant to apply the necessary cards or perform the necessary operations for indicating what has taken place at a distant field of sport. I may dispense with the assistant, and in fact may make it unnecessary to employ any operator at the receiving end of the line, the sending-operator being able to control all the operation for making the required indications. In general, I may say, that my system is fitted either for reporting at the opposite end of a ball-field from the grand-stand the game going on before the eyes of the spectators or for reporting distant games. It often happens that spectators coming in late are unable to ascertain the number of innings played, the striker at the bat, the number of balls and strikes called, and so on. Moreover, it is often difficult for those constantly present to determine whether the umpire has called a strike or a ball. It is the design of the inventor to place a board at the farther end of the ground and to have an operator stationed close to the official scorer telegraph the balls and the other conditions and occurrences of the game, so that a record of them can be seen plainly on the board. In the same way an exhibition-board may be made to show the condition of a game in a distant city. I accomplish the results indicated by arranging upon the board a series of indications

sufficient to give a full knowledge of the condition of the game at a glance. I then control these indications by means of motors, either electric or electrically controlled, which are operated by an experienced person having the requisite knowledge.

I have illustrated my invention in the accompanying drawings, in which—

Figure 1 is an elevation of a board provided with suitable indicating devices. Fig. 2 is an elevation of the key-board controlled by the operator. Fig. 3 is an elevation of a board adapted to report the home game and a key-board connected therewith. Fig. 4 is a rear elevation of the board shown in Fig. 1. Fig. 5 is a front elevation of an electric motor adapted to do the work required in my invention, some of the parts being cut away for the sake of clearness. Fig. 6 is an end elevation of the same, and Figs. 7 and 8 show details.

Referring to the drawings by letter, A is a suitable board provided with guide-pieces *a a a a a* for containing slides, on which are printed the names of the contesting clubs, the names of the umpire or umpires, and the name of the place where the game is played. These names are unchanged for any given name. At *b b* are shown openings in the board with appropriate matter printed opposite some of the openings, such as "Score," "Inning," "Balls," "Strikes," and "Out." The other openings are in positions for indicating the fielders or base-runners. Behind the openings in the board are circular disks B B, on which are numbers arranged in series for giving proper indications. It is these disks that are controlled by my electric motor for indicating the condition of the game at any given time. For example, referring to the board in Fig. 1, there is behind the opening *b* near the top a disk having numbers arranged consecutively, and this disk is capable of being moved step by step, so as to bring successive numbers behind the opening. In this way an operator can make known to the spectators what inning is being played. In the same way he can indicate upon the board the number of balls and strikes and whether the striker or base-runner is out. Moreover, the number at the lower end of the

diamond will indicate who is at the bat, and the same number appearing at successive corners of the diamond in response to manipulations of the operator will show the movements of the striker as soon as he becomes a base-runner. At *c* is a rectangular opening marked "At the bat," the purpose of which will be explained hereinafter.

At the lower right-hand corner of the board I show a bell for indicating base-hits. This bell is controlled by a key or push-button *C* on the operator's key-board *D*. (Shown in Fig. 2.) A single stroke of the bell, caused by pushing the button once, indicates a base-hit, two strokes indicate a two-base hit, three strokes a three-base hit, and four strokes a home-run.

At *D*, I show the key-board supporting a series of two-point switches, which control a series of electric motors behind the board. Before explaining the operation of these switches it will be necessary to describe the motor itself by reference to Figs. 5, 6, 7, and 8. Referring to those figures, *E* is the frame of the motor apparatus, and *F* is an electro-magnet supported within the same. The magnet *F* is provided with an armature *G*, whose lever extends from it at right angles and is traversed at its outer end by a shaft *H*, pivoted in the frame.

Rigidly connected with the shaft *H* is a disk *I*, provided with a rim or flange *i*, as shown; also, joined to the armature is a spring *J*, which supports a notched bar *j*, the notch of which is angular and passes over the rim. This construction is clearly shown in Fig. 8. Normally the armature is away from the magnet-poles, in which case the notch surrounds the rim, as shown in details in the figure referred to. When, however, the armature is attracted, it is evident that the arm will carry the rim and the disk along with it, thereby causing the shaft *H* to rotate. On the opposite side of the disk is arranged a similar spring and notched bar *j*, the spring in this instance being supported by a part of the frame *E*. The notched bar *j* serves as a clutch or holder, preventing the disk from being returned to its original position on the back-stroke of the armature. Behind the disk *I* is a smaller disk *K* of metal. On this disk bear from opposite sides two springs *h* *h'*, one of which is supported by an insulating-post *L* on the base-plate, and the other of which is supported upon an insulating-block *M*, also supported on the base. It will be observed that the disk is cut away at one point and that insulating material is inserted. The object of this will appear hereinafter.

The armature of the magnet, or rather the armature-lever extending therefrom, carries a spring-arm *N*, on the outer end of which is a yoke *O*. Through this yoke extends a beam or arm *P*, which is secured to a centrally-pivoted lever *Q*. The lever can be adjusted, as shown, by means of a screw *R*, which is lo-

cated behind one end of the lever. The opposite end of the lever carries a conducting-point, which normally makes contact with a spring *S*, supported upon the block *M*.

The arrangement of circuits is shown in diagram in Fig. 5. Here a switch *T* is shown adapted to make contact with either post *t* or post *t'*. Placing the circuit from the battery we may suppose it to pass first to an insulated post *U* on the frame *E*, whence it passes to the magnet, and from there to the spring *S*. Leaving this spring, it normally goes to the lever *Q*, which is in electrical connection with the frame of the apparatus. By this means it passes to the disk *I*, which is not insulated from the frame, and from there it goes either by the spring *h* or *h'* to the switch and battery. Whether it goes by spring *h* or spring *h'* depends upon whether the switch-lever is in contact with *t* or *t'*. If with the former, then it goes by way of *h* and the post *L*. If with the latter, then it takes the other course.

It should be stated that the yoke *O* carries a little roller *o*, which travels under the beam *P*. In traveling to the limit of its motion it gradually presses harder and harder upon the beam, and when the limit is reached it lifts the beam and the lever far enough to break the contact between the conducting-point on the lever and the spring *S*. This being understood, the operation of the apparatus is as follows: The switch-arm is turned into contact with one or the other of the posts *t* and *t'*. When this happens, a complete electric circuit will be formed over one or the other of the courses described. The result will be that the electro-magnet will be energized, its armature will be attracted, the disk *I* will be partially rotated, carrying the disk *K* with it, and the arm *N* will be swung, breaking the circuit when it reaches the limit of its stroke. Owing to the rupture of the circuit in this way the armature will vibrate back and forth, as in the ordinary vibrating bell, and the motion will continue until the insulating part of the disk *I* is brought under the particular spring which happens to be in circuit. The rotation will then cease and will not be resumed until the circuit is closed over the second course described by turning the switch-arm to the opposite post. It is thus evident that the disk *I* is caused to rotate a half-revolution every time the magnet-circuit is closed, but that in order to operate it it is necessary to move the switch to the proper point. Of course the disks might be provided with four or more insulating-points, so as to cause the motor to stop after each quarter or other fractional part of a revolution.

In Fig. 4 I show a series of motors similar to the one described and each adapted to operate a separate disk *B* through the medium of suitable gear-wheels *W* and pinions *w*. The gearing is so proportioned that a half-rotation of the motor apparatus will cause the disk to be moved one step forward or far enough to bring a new number (the next suc-

ceeding one) behind the opening. The two motors behind the openings where the score is indicated are for operating two disks in case more than nine runs are scored. At X,

5 I show a motor connected with a series of compound levers, the object of which is to enable different colors, as red and blue, to be displayed behind the openings for indicating the fielders. Thus in a game between the
10 New Yorks and Bostons the color red might be used to indicate the New York players and the color blue to indicate the Boston players. The segments *y* in the drawings, Fig. 4, are one-half blue and one-half red and
15 are supplied with appropriate numbers for indicating the position of the different fielders. When the New Yorks are in the field, the operator turns the proper switch on his key-board to throw the red numbers into po-
20 sition where they can be seen. The reverse takes place when Boston goes to field.

It will be understood that each motor is connected up with its proper switch on the key-board by circuits similar to those above
25 set forth, and that an operator by properly manipulating the switches can throw any desired indication upon the board.

At Z, I show a device for indicating which player is at the bat. The slats *z* of the reel
30 Z contain the names of the different players, and the arrangement being the ordinary belt-and-pulley arrangement they can be turned by the thumb-screw *l* so as to bring any desired name into position. I may use a motor
35 for operating the reel in the same way as the disks.

Fig. 3 shows an apparatus especially adapt-

ed to reporting the home game. The board A is set up at the rear of the ground, where it can be seen by all of the spectators. The
40 principle, construction, and operation of the parts are substantially the same as those above described.

I have shown and described an electric motor of a particular type for doing the work re-
45 quired by my invention; but I do not wish to confine myself to any special form of motor, as others can be substituted without difficulty. A mechanical motor, for example, whose step-by-step movement is controlled
50 electrically, would do as well, or, in fact, any preferred form of motor in which either the motive or the controlling power is electrical.

Having now described my invention, I claim—

55 In a system for reporting ball games and similar sporting events, an exhibition-board having openings behind which are rotating number-disks, the said disks being geared to electric motors; each of said motors having two
60 circuits which run, respectively, through one or the other of two springs bearing on a disk which is insulated at one or more points on its periphery, whereby the motor is adapted to make a part rotation only on the comple-
65 tion of one of its circuits, as set forth.

In testimony whereof I have signed my name, in the presence of two witnesses, this 29th day of May, A. D. 1890.

MELVIN D. COMPTON.

Witnesses:

G. H. STOCKBRIDGE,
D. E. HERVEY.