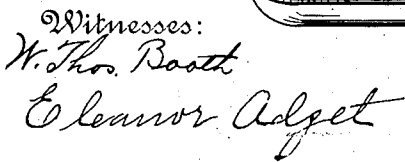


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2 SHEETS--SHEET 1.

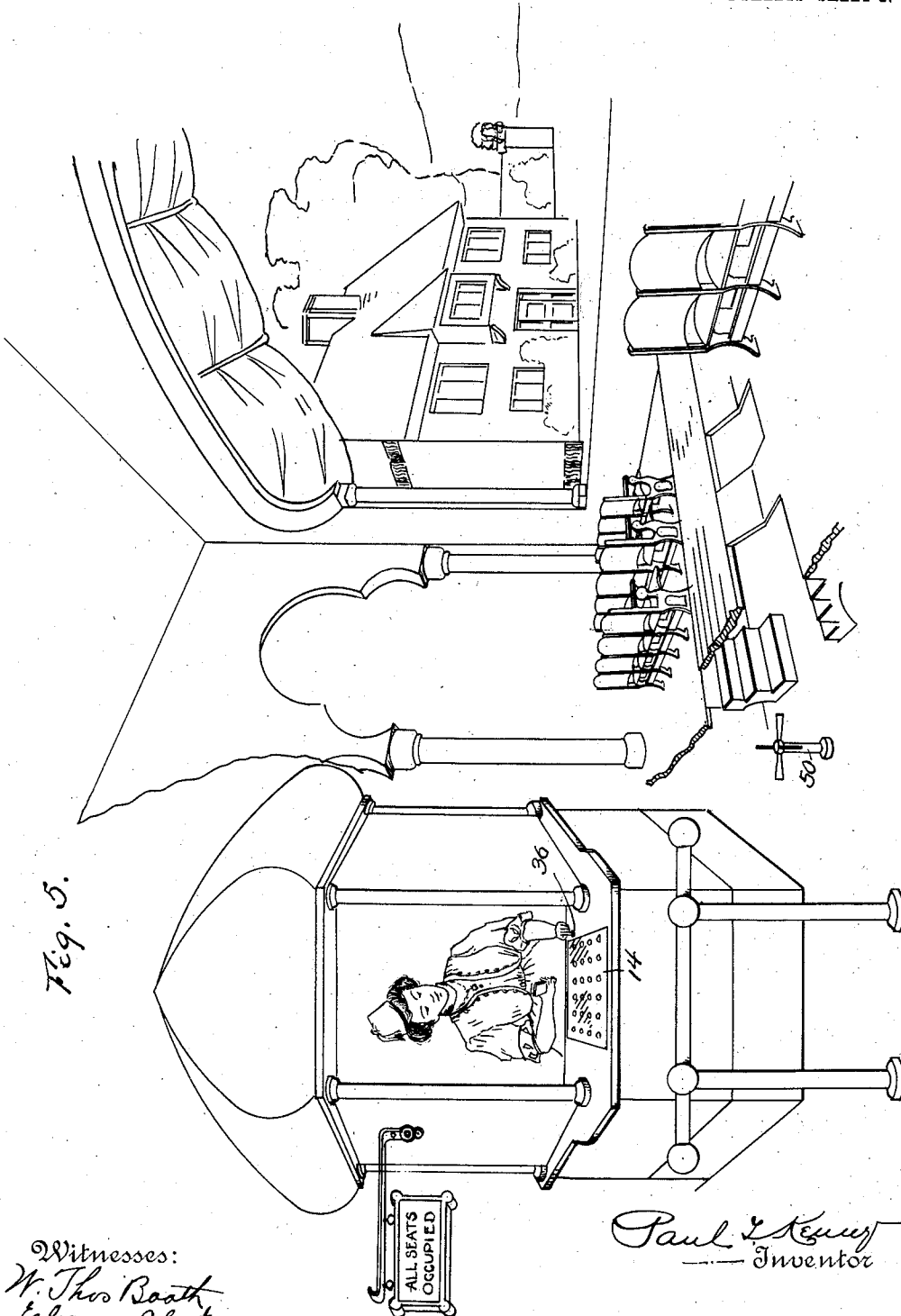


Paul E. Kenny.
— Inventor

P. T. KENNY.
THEATER CHAIR SIGNAL SYSTEM.
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2 SHEETS—SHEET 2.



Witnesses:
W. Thos. Booth
Eleanor A. Galt

Paul T. Kenny
Inventor

UNITED STATES PATENT OFFICE.

PAUL T. KENNY, OF NEW YORK, N. Y.

THEATER-CHAIR-SIGNAL SYSTEM.

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Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed November 24, 1908. Serial No. 464,293.

To all whom it may concern:

Be it known that I, PAUL T. KENNY, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Theater-Chair-Signal Systems, of which the following is a specification.

The objects of the invention are, for use in theaters, particularly of that class known as the moving picture variety, to provide a complete signaling system, whereby entering patrons and the person in the box office can tell at any time what seats in the house are vacant, and further to provide means whereby entrance is barred into such aisles and rows as have no vacant chairs, such means being released as soon as a chair is vacated in the row or aisle.

Among the possible applications of my invention are the following: a group of electric signals, preferably lights, located adjacent a row of seats, and chair-related switches, each adapted when its chair is occupied to extinguish its corresponding signal, and when its chair is vacated to re-light its signal; a gate, preferably in the nature of a turnstile, located at the end of a row of chairs, and chair-related switches adapted when all the chairs in the row are occupied to effect the locking of such gate against ingress, and when one or more seats are vacated to release such lock; an electric signal at the head of an aisle to indicate when all the seats pertaining to that aisle are occupied or when some are vacant, and chair-related switches adapted to actuate said signals; a gate, preferably in the nature of a turnstile, at the head of the aisle, and chair-related switches adapted to effect the locking of said gate against ingress when all the seats are occupied, and to release such lock when one or more of the seats are vacated; a group of signals at the box office corresponding to the seats in the house, and chair-related switches whereby such signals are individually actuated as the chairs are occupied and vacated; and a signal at the box office or ticket booth for indicating that the house is full, and chair-related switches whereby said signal is displayed only when all the seats are occupied. These features may be employed severally or collectively; but greater advantage will be had from the use of certain or all of them in combination. For example, the relation between the turnstile for row and aisle

and the signals for row or aisle is particularly intimate, for, without the signals, many patrons would needlessly encounter barred entrances.

The essentials of the invention, of which the foregoing applications are but certain embodiments, will be found set forth concisely in the appended claims; and they will not, therefore, be repeated here. In reading these claims it should be kept in mind that the term "group", as applied to chairs, is used in a purely generic sense and does not necessarily refer to any specific number or arrangement. All the chairs in the house may be regarded as a group.

The advantages of my invention will be readily apparent. Reserved seats may be sold over and over again at the box office, in the same day, (it being well known that patrons of moving picture theaters are constantly entering and leaving), and patrons who do not purchase reserved seats may tell at a glance on entering the theater what seats open to them are vacant. As patrons in moving picture resorts are entering constantly during the performance, and as the house is usually dark, it is of great value to obviate the hunting for seats, which is a source of annoyance to those already seated, as well as to the newcomers themselves; and by means of signal lights I attain this desideratum.

The accompanying drawings are to be taken as illustrating rather than limiting my invention.

Briefly describing them, Figure 1 shows a transverse section of a one-aisle theater with a row of three seats on either side thereof, together with diagrammatic illustration of the chair-related switches, signals, turnstiles, and wiring; Fig. 2 is a vertical longitudinal section through one of the chairs; Fig. 3 is a detail view of a form of chair-related switch that may be used; Fig. 4 is a detail view of a form of group signal that may be used for the rows; Fig. 5 is a partial perspective showing a ticket booth and part of the interior of the theater; and Fig. 6 is a diagrammatic view showing how the lock for a row turnstile may be operated.

In Figs. 1 and 4 my signaling system is shown as installed in a theater having a deeply-sunken aisle 5, covered by a platform 6, which connects the portions of the floor of the house at opposite sides thereof, but it need scarcely be observed that the

system is not limited in its application to any one type of theater construction. Flights of stairs 7 may lead from the bottom of the aisle 5 to the rows of seats at both sides.

5 For the sake of avoiding complication in the illustration of wiring I have shown the switches 9 pertaining to the chairs numbers 1, 2 and 3 of the row designated by the numeral 1 as connected with the group 16 of
10 row signals V^1 , V^2 , V^3 and the row turnstile 3, while the chair-related switches 9 of chairs numbers 4, 5 and 6 of the row designated by the numeral 2 are shown connected only with the box-office group of signals 14. This may, in fact, be the arrange-
15 ment, if the chairs on one side of the house are for general admission and those on the other side are "reserved"; but it must be understood that my invention contemplates as well the connection of the chairs on both
20 sides of the house with row signals and turnstiles and with the box-office group of signals.

Considering now the chairs of the row at
25 the left of Fig. 1, designated by the numeral 1, a suitable mode of wiring and connection is the following: From the positive side of generator 17, along wire 40, through unlocking magnet 10 of spring-actuated locking
30 pawl or member 10^a (it being understood that any usual or desirable pawl and ratchet or clutch device is present to prevent retrograde movement of the turnstile 3), along wire 41, and in parallel through the switches
35 9 and their series-connected lamps V^1 , V^2 , V^3 , along wire 42, through relay 11, and along wire 43 to the negative side of the generator 17.

From the foregoing relations it will be
40 seen that the signals of the group 16 are controlled individually from their corresponding chairs, whereas the turnstile 3 is controlled by the chairs of row 1 collectively. Any desirable form of switch may be em-
45 ployed; that shown in Fig. 3 is mainly for illustrative purposes. It is shown in the position it would occupy with the pivoted seat 35 pressed down by the weight of an occupant. It comprises a shaft 25 moving
50 vertically in and projecting above a suitable casing 22, being provided at its upper end with a seat-engaging button 20. A comparatively strong spring 21, confined between the top of the casing 22 and the but-
55 ton 20 elevates the shaft 25 when the chair is vacated. Spring contacts 23 are shown within the casing 22, in position to be engaged by a contact member or plate 26 carried by a sleeve 28, loose on the shaft but
60 limited as to longitudinal movement thereon by a pin 28 projecting laterally from said shaft 25 and cooperating with a vertical slot in the sleeve 27. A comparatively light spring 24 is interposed between the top of
65 the casing 22 and the contact member 26.

In operation, if the chair be vacated, the shaft 25 rises under the influence of spring 21, raising with it the sleeve 27 and contact member 26. In this way, the circuit between the spring contacts or terminals 23 is com-
70 pleted. When a person sits upon the seat 35, the shaft 25 is depressed; but the sleeve 27 remains for a time stationary, while the pin 28 travels to the bottom of its slot. Then, the contact member 26 is forced down-
75 ward and the spring 24, which was compressed during the foregoing operation, acts suddenly to break the connection between the contact 26 and the spring terminals 23. All of these are immaterial details as far as the
80 main features of the invention are concerned.

It will now be apparent that the lights of the group 16 are illuminated individually as the corresponding chairs are vacated, and
85 extinguished individually as the corresponding chairs are occupied; also that the locking device 10^a of the turnstile 3 is in operation only when all the chairs of the row are occupied and, therefore, the magnet 10 de-
90 energized. When one of the chairs is vacated, this magnet is again energized and the turnstile is unlocked as to ingress.

As to the chairs in the row at the right of Fig. 1, designated by the numeral 2, the illustrative arrangements are as follows:
95 Current passes from the positive side of generator 17, along wire 44, past manually-operated switch 36, along wire 45, in parallel through the signal lights of the box-office group of signals 14 and their series-con-
100 nected switches 9, and along wires 48 and 43 to the negative side of the generator. The switches 9 being of the kind just described, it is evident that each chair as it is vacated partially completes the circuit through one
105 of the signals 14, and vice versa. When the occupant of the box office desires to consult the chart afforded by the group of signals 14, he or she merely closes the switch 36, when the lights corresponding to vacant
110 seats flash out. In this way, patrons desirous of securing reserved seats can be immediately informed which seats are unoccupied. They can then be furnished with suitably identified tickets, so that they may
115 secure these seats.

As intimated, the left hand side of the house in Fig. 1 may be regarded as for general admission, while the right hand side is for reserved seats. For greater convenience,
120 the seats at the left side may be reached from the depressed aisle or passageway 5, while the seats at the right may be reached from the elevated platform 6. When all the general admission seats pertaining to the aisle 5
125 are taken, a turnstile 50 at the head of the aisle may be locked against ingress and an "all seats occupied" signal 13 may be displayed in place of the directing signal 12. This may be accomplished in the following
130

way: The relay 11 operates a double-faced contact member 51. When current is flowing through the relay 11, which is true as long as one of the seats at the left of Fig. 1 is unoccupied, this contact 51 is elevated and completes the circuit through a shunt in which is located the signal 12. When all the seats are occupied, the magnet of relay 11 is deenergized, and the contact 51 engages with a pair of contacts pertaining to a shunt in which is located the signal 13 and the locking magnet 52 of the spring-released locking pawl 53 of the turnstile 50. Persons desiring general admission seats will, thus, be warned that no seats are vacant, and, should they attempt to press forward, would be prevented by the locked turnstile, until someone occupying one of these chairs leaves it.

It seems scarcely necessary to observe that a signal corresponding to signal 13 may be located outside the theater or at the box office.

The lights of the group 16 have been shown as mounted on the underside of the platform 6. Of course, this is not material; and in Fig. 4 I have shown a group of jewel lights 30, which may be used as well, being mounted in a casing 31 at the upper end of a pipe standard and shaded by hood 32. This type of signal may be used in connection with the reserved seat section, if desired, and I have indicated one of them at 15, at the end of the row of seats at the right of Fig. 1. In order to avoid obscuring the illustration, I have not shown the wiring of this set of lights; but it will be understood that it may be the same as that shown for the lights of group 16.

It has been gathered from all the foregoing that the essence of this invention is by no means limited to details or to particular applications. The signals need not all be lights. Operations may be reversed. It is not at all necessary that the chair-related switches be operated by the seats of the chairs. They might not be operated directly by the chair at all. All that is necessary is that they be adapted to be actuated, involuntarily with reference to the occupant of the chair, upon the chair being occupied and reversely upon the chair being vacated.

In certain of the appended claims I have concisely set forth the relation between the chair-switches and the chair-indicating signals, by stating that each switch is adapted to be operated, involuntarily with reference to the occupant of the chair, through the occupying and vacating thereof, to display its signal diversely throughout vacation and occupation. In order to anticipate the possible technical objection that a signal light when extinguished is not displayed, I wish to point out that it is displayed in a negative sense. Moreover, the statement that the

switches are adapted to be operated to display their signals diversely "throughout vacation and occupation" should not be taken as incompatible, on the one hand, with the fact that the switches may be slow-acting in one direction, so that the signals will not be changed for a predetermined period after the occupants rise from their chairs, or, on the other hand, with the fact that a manual, operator's switch may be inserted in all the circuits of a group of signals, so that, while the chair-switches may be operated through the vacation of the chairs to change the signals, they may be prevented from doing so by reason of the operator's switch being open. The latter state of affairs may obtain with reference to the box-office signals, as has been described.

There remains to be referred to a feature of value, which, in most instances, it will probably be advisable to employ. This feature is means for rendering the switches slow-acting upon the vacation of the chairs. The advisability of such provision will be apparent when there is taken into consideration the fact that patrons of theaters often arise from their seats for purposes other than that of quitting the building, as, for example, for the purpose of adjusting their wraps. Of course, various devices for rendering switches slow-acting in one direction are old, and it is immaterial to this invention which of these or what novel means may be employed for this purpose. A dash-pot 54, with air-cock for regulating purposes, would serve to good purpose.

What I claim as new is:

1. In a theater signaling system, the combination with a group of chairs, of a group of visual, occupancy-indicating electric signals corresponding thereto, and chair-related switches each pertaining to a chair and connected with a signal and adapted to be operated, involuntarily with reference to the occupant of the chair, through the occupying and vacating thereof to display its signal diversely throughout vacation and occupation.

2. In a theater signaling system, the combination with a group of chairs, of a group of electric lights corresponding thereto and in the vicinity thereof within the theater, and chair-related switches each pertaining to a chair and connected with a light and adapted to be operated, involuntarily with reference to the occupant of the chair, through the occupying and vacating thereof to illuminate and extinguish its light throughout vacation and occupation respectively.

3. In a theater signaling system, the combination with a group of chairs, of a group of visual, occupancy-indicating signals corresponding thereto, and chair-related switches each pertaining to a chair and con-

needed with a signal and adapted to be operated, involuntarily with reference to the occupant of the chair, through the occupying and vacating thereof, to display its signal diversely throughout vacation and occupation; together with a manual, operator's switch common to all the signals.

4. In a theater signaling system, the combination with a group of chairs within the theater, of a group of visual, occupancy-indicating signals corresponding thereto located in the box-office of the theater, and chair-related switches each pertaining to a chair and connected with a signal and adapted to be operated, involuntarily with reference to the occupant of the chair, through the occupying and vacating thereof, to display its signal diversely throughout vacation and occupation.

5. In a theater signaling system, the combination with a group of chairs, of visual electric signaling means adapted to indicate in the vicinity of the chairs their condition with reference to occupation or vacation, chair-related switches connected with said signaling means and adapted to be operated, involuntarily with reference to the occupant of the chair, through the occupying and vacating thereof, a gate controlling the access to all of said chairs, locking means therefor,

and electrical connections between all the switches and said locking means, whereby the gate is locked when all the chairs are occupied and released when one or more are vacated.

6. In a theater signaling system, the combination with a group of chairs, of a single visual, occupancy-indicating electric signal pertaining to said group, and chair-related switches each pertaining to a chair and all connected with said signal and adapted to be operated, involuntarily with reference to the occupants of the chairs, to display said signal diversely when one or more chairs are vacant and when all are occupied.

7. In a theater signaling system, the combination with a group of chairs, of chair-related switches adapted to be operated involuntarily with reference to the occupant of the chair through the occupying and vacating thereof, mechanism operated by said switches for indicating the condition of said chairs as to occupancy and vacancy, and means for rendering said switches slow-acting upon vacation of their respective chairs.

PAUL T. KENNY.

Witnesses:

ELEANOR ADZET,
CHAS. HERRMANN.