components are such that when knob **24** assumes the "in" position, at which time the movable contact and a fixed contact are completely engaged, stop **37** will assume the position shown in Fig. 2, permitting closure of the circuit breaker. When knob **24** is pulled out, withdrawing the movable contact from a stationary contact, as shown in Fig. 3, disc **40** contacts follower **39**, urging stop **37** outwardly and tripping the circuit breaker, as illustrated. Thus it is impossible to rotate shaft **16** unless the circuit breaker **26** is open, and conversely it is impossible to close the circuit breaker unless knob **24** is "in," at which position the movable contact pin is engaged with a fixed contact. Because of the fact that insulating block **18** is wider than the space between any two adjacent contacts it is impossible to push knob **24** inwardly unless the movable contact pin is in alignment with one of the fixed contacts. When this alignment occurs, index **32** (Fig. 1) will coincide with a corresponding one of the indicia **33**.

From the foregoing it will be understood that knob **24** is not rotatable except when pulled out, as shown in Fig. 3. When it is in this position the selector switch is not energized, so that while selection of the desired feeder circuit is being made by rotating the movable switch arm, no other circuit or feeder is contacted or affected in any way. When the knob has been rotated to the desired position it is pushed in to complete the connection between contact pin **21** and a fixed contact beneath it. However, the circuit is not then energized because the circuit breaker is still open, being manually closable only. The circuit breaker may then be closed to complete the circuit, providing contact pin **21** has been fully inserted in the fixed contact collar. In this manner the desired feeder can be selected and the switch preset, to be later energized by closing the circuit breaker. If one or more positions of the selector switch are not to be used, the hole within the collar may be temporarily filled with a plug so that the switching knob **24** cannot be pushed in at that position, or suitable stops may be employed to prevent the switch from being rotated into such unused positions. It is preferable, however, to have the selector switch arranged so that it may be turned continuously clockwise or counterclockwise to facilitate rapid selection of the desired positions.

A typical switchboard or control panel which incorporates 28 selector switches in accordance with the invention, is illustrated in Fig. 4, showing the manner in which these switching devices may be employed in theatres, for example. This panel includes a main switch **41**, a row of feeder line switches **42** and a number of dimmers or other circuit-modifying devices **43**. Each of the selector switches would be connected to a group or bank of lights, and as below explained, current must pass from the power line through the feeder circuit which is selected by a selector switch in order to pass through the appropriate bank of lights.

The schematic diagram of Fig. 5 illustrates the control system in accordance with the invention and shows one manner in which the selector switch may be connected in such a system. For example, in a control panel such as shown in Fig. 4, each selector switch mounted on panel **14** may be connected as shown in Fig. 5. In such panel there would actually be 28 connections from each feeder line, one from each feeder to its respectively numbered contact on each of the

other selector switches. To be consistent with Figs. 1, 2 and 3, there would be 12 feeder lines (instead of 8 as shown in Fig. 5) connected to each selector switch. The omissions in the drawing are for the purpose of clarifying it. The actual number of feeder circuits and selector switches will, of course, vary with the relative complexity of the lighting system, as well as in accordance with the nature of the different lighting effects desired.

In Fig. 5 one side of a single-phase power system is shown, the other side being grounded. With a three-phase source of supply the system can be wired in different ways depending upon whether the lighting system operates at 220 volts or at 115 volts. For example, in a 220-volt system two of the three phases would supply the feeders by each of the two being connected to alternate feeders with the third of the three phases connected as ground to all of the feeders, thus imposing a 220-volt potential across each of the feeders (line-to-line). In a 115-volt system each of the three-phase lines would be connected to every third feeder, consecutively, and the other side of the feeder would be connected to ground (line-to-ground).

Power line **44** is connected through main switch **41** to a bus feeding the feeder line switches **42**. In feeder lines **1—5**, dimmers **43** are shown to be connected for controlling the degree of illumination of the lights. These dimmers are represented as comprising rheostats or potentiometers, but in accordance with modern practice they would usually be of the autotransformer type or of the reactor type. In an actual installation, some feeders would include non-current-modifying equipment as shown in feeders **6** and **7** of Fig. 5. However, any desired circuit- or current-modifying apparatus may, of course, be connected in any desired feeder, and such apparatus is generally represented by box **45** in feeder line **8**. Each of the feeder lines is connected to its terminal, respectively numbered, on all of the selector switches mounted on the control panel, and in turn, the movable switch member of each selector switch is connected (through its circuit breaker) to its particular branch of the system. As is customary in the art, the various circuits are fused with fuses of appropriate capacity.

From the output terminal **28** of the circuit breaker the light circuit **31** is energized and, as indicated, this circuit includes lines **46**, or any other desired load.

It can be seen in Fig. 5 that, in the typical system employed in connection with this invention, when the selector switches are in the "in" position with the circuit breakers closed and the feeder switches closed, the entire system can be controlled through the main switch **41**. With the main switch and selector switches closed, each feeder and its connected selector switches can be controlled as a group, viz., either "on and off" control through the feeder switch or variable control through the dimmer, or other apparatus connected in the feeder. When the feeder switch and the main switch are closed the selector switch can be preset at any desired position and will draw current from the selected feeder by closure of the circuit breaker of that selector switch to complete the circuit.

It is to be understood that the embodiment of the invention herein described and illustrated comprises but one example of the many applications of the present invention and that the