This invention relates to an automatic room register for hotels and motels and more particularly to a novel electrical unit including a plurality of switches which function in conjunction with plugs, by means of which a plurality of electric circuits are controlled for visually indicating the number of room vacancies and when a "no vacancy" status arises.

More particularly, it is an aim of the present invention to provide a plurality of jacks each containing two electric switches actuated by applying and removing a plug wherein application of the plug to the jack effects a closing of one of the switches and an opening of the other switch and removal of the plug results in an opening of the closed switch and a closing of the open switch, for thereby controlling separate electric circuits by which the number of vacancies are indicated and the lack of any vacancies, when such a condition arises.

Still a further object of the invention is to provide a room register of the described character wherein the switch actuating plugs constitute room key supports so that room keys of vacant rooms are supported by plugs which are mounted in the jacks.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a fragmentary plan view of a panel with which the multiple switch supporting jacks may be associated:

Figure 2 is an enlarged fragmentary vertical sectional view taken substantially along a plane as indicated by the line 2—2 of Figure 1 and including a fragmentary diagrammatic illustration of the electric circuits:

Figure 3 is an enlarged sectional view taken substantially along a plane as indicated by the line 3—3 of Figure 2, and

Figure 4 is a plan view of one of the key supporting jack plugs.

Referring more specifically to the drawing, the automatic room register in its entirety is designated generally 6 and includes a panel 7 to a rear side of which is attached a plurality of walls arranged in pairs, each including an upper wall 8 and a lower wall 9. The walls 8 and 9 of each pair of walls are disposed above and beneath, respectively, a horizontal row of plug receiving openings 10 which are arranged in spaced apart relation to one another. Each wall 8 behind each opening 10 and spaced therefrom is provided with a switch supporting hanger 11 of electrical insulating material, and each wall 9, behind and spaced from each opening 10, is provided with an upstanding switch supporting standard 12 of electrical insulating material. Each hanger 11 is provided with spaced nut and bolt fastenings forming contact posts 13 and 14 and each standard 12 supports a corresponding pair of fastenings, forming contact posts 15 and 16. The upper contact post 13 of each hanger 11 supports a resilient switch element 17 which is disposed above the switch element 20, is spring biased away from the switch element 20 to normally assume a position out of engagement therewith so that the switch 19, 20 constitutes a normally open switch. The switch element 17, adjacent its free end and beyond the switch element 18, is provided with a downwardly offset portion 21 and the switch element 19, adjacent its free end and beyond the switch element 20, is provided with an upwardly offset portion 22.

An electric socket 23 is mounted in the panel 7 above each opening 10 and a small electric bulb 24 is mounted in each socket 23 and extends outwardly from the panel 7. Electrical conductors 25 and 26 lead from a suitable source of electric current supply. If the current source is a conventional 110 volt current supply, a transformer 27 may be interposed in the line 25, 26. Also, the positive conductor 25 is preferably provided with a fuse 28. A lateral or branch conductor 29 leads from the conductor 25 to the post 15 of each switch 19, 20 and a branch conductor 30 is connected to the post 16 of each switch 19, 20 and to the main line conductor 26. The socket 23 disposed immediately above and associated with each switch 19, 20, is also interposed in and connected to the conductor 30 between the post 16 and conductor 26, so that when the switch 19, 20 is closed the light bulb 24 contained in said socket 23 will be energized.

A conductor 31 leads from the main line conductor 25 to the post 13 of one switch 17, 18. Said switch 17, 18, is connected to another switch 17, 18, by a conductor 32 which extends from the post 14 thereof to the post 13 of the next switch, and the remaining switches 17, 18 are connected together in the same manner and with a conductor 33 leading from the post 13 of the last switch 17, 18 to the main line conductor 26. A light source 34 is interposed in the conductor 33. Thus, the switches 19, 20 and the light bulbs 24 thereof are connected in parallel to the main line conductors 25, 26 while the switches 17, 18 are connected in series with one another and to the main line conductors.

Each pair of switches 17, 18, 19, 20 and the panel opening 10 associated therewith forms a jack 35 and the switches of each jack 35 are operated by a key supporting plug 36 including a body 37, which is preferably bifurcated, and a stem 38 which extends from one end of the body 37. At least the stem 38 of the plug 36 is formed of fiber or other electrical insulating material. A room door key 39 is connected to each plug body 37 by having the head of the key disposed in the other bifurcated end of the plug body 37 and swingably connected thereto by a pin 40 which extends through the body 37 and key head, as best illustrated in Figure 4.

It will be apparent that the panel 7 may be provided with any number of jacks 35 and will be provided with a corresponding number of plugs 36 to each of which is connected a room door key. The plugs 36 can be numbered as seen in Figure 2 to designate the number of the room of the hotel or motel, the key 39 of which plug
will fit the door of such room. Likewise, the jacks 35 may be numbered by numbers applied to the front side of the panel 7 above the openings 10 of said jacks, as illustrated in Figure 1. When a room is vacated the key and key plug are turned in to the room clerk, the stem 38 of the key plug is inserted through the jack opening 10 of the jack 35 bearing a number corresponding to the plug number. As the stem 38 passes inwardly the rounded inner end or head 41 thereof will engage between the switch element portions 21 and 22 of said jack 35 to deflect the switch element 17 away from the switch element 18 for opening the normally closed switch 17, 18, and to deflect the switch element 19 inward and into engagement with the switch element 29 for closing the normally open switch 19, 20. Closing of the switch 19, 20 will complete the circuit to the light bulb 24 associated therewith so that said bulb will be energized to indicate the room vacancy. Should all of the plugs 36 be removed from the panel 7, it will be readily apparent that all of the bulbs 24 will be de-energized and that all of the switches 17, 18 will be in closed positions to complete the series circuit through said switches and the wires 31, 32 and 33 to energize the light bulb 34. The light bulb 34 can be associated with a sign, for example, not shown, disposed at a point remote from the panel 7 and so as to illuminate indicia indicating that no vacancies exist, as for example the word “no” or “a no vacancy” sign and wherein the word “vacancy” is maintained constantly illuminated by a separate and distinct light source. Also, the light bulb 34 can be located in the office of the manager of the establishment or in a position where it is readily visible to a telephone switchboard operator of the establishment, or a number of bulbs 34 can be interposed in the conductor wire 33 for each of said enumerated purposes, and all of which will be simultaneously energized and de-energized.

Distinctively colored translucent covers may be provided, as seen at 42 in Figure 2, which may be detachably mounted over the light bulbs 24 which are illuminated to indicate that the room designated by said light bulb has been reserved.

Various modifications and changes are contemplated and may obviously be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. An automatic room register of the character described comprising a supporting member, a plurality of jacks supported by said supporting member each including a normally open electric switch and a normally closed electric switch, each of said switches include a rigid switch element and a resilient switch element, parallel electric circuits in which said normally open switches are interposed, a light source interposed in each of said parallel circuits, a single series circuit in which all of said normally closed switches are interposed, at least one light source interposed in said series circuit, and a plug for each of said jacks, said plugs being selectively insertable into and removable from the jacks, each plug, when applied to the jack thereof, engaging the resilient switch elements of the two switches of said jack for displacing said resilient switch elements away from normal positions thereof to close the normally open switch of the jack for completing the electric circuit to the light source of the parallel circuit of said switch and for opening the normally closed switch of said jack whereby when the plug of any jack is in an applied position the light source of the series circuit will be de-energized.

2. An automatic room register as in claim 1, said support comprising a panel having a front side and a rear side, wall members supported by and projecting from the rear side of the panel and providing supports for said switches, portions of the panel and wall members constituting the housings of said jacks, said panel having openings forming parts of the jacks and through which the plugs are insertable into the jacks, and said light sources of the parallel circuits being mounted on and projecting from the front side of the panel and being disposed in close proximity to the panel openings.

3. An automatic room register as in claim 1, each of said plugs including a stem of electrical insulating material forming the plug part which engages the resilient switch elements and a body portion having means adapted to fasten a room key thereto.

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