July 12, 1966 M. J. CROSTHWAIT 3,261,011

SIGNAL SYSTEM

Filed Dec. 30, 1963 2 Sheets-Sheet 1

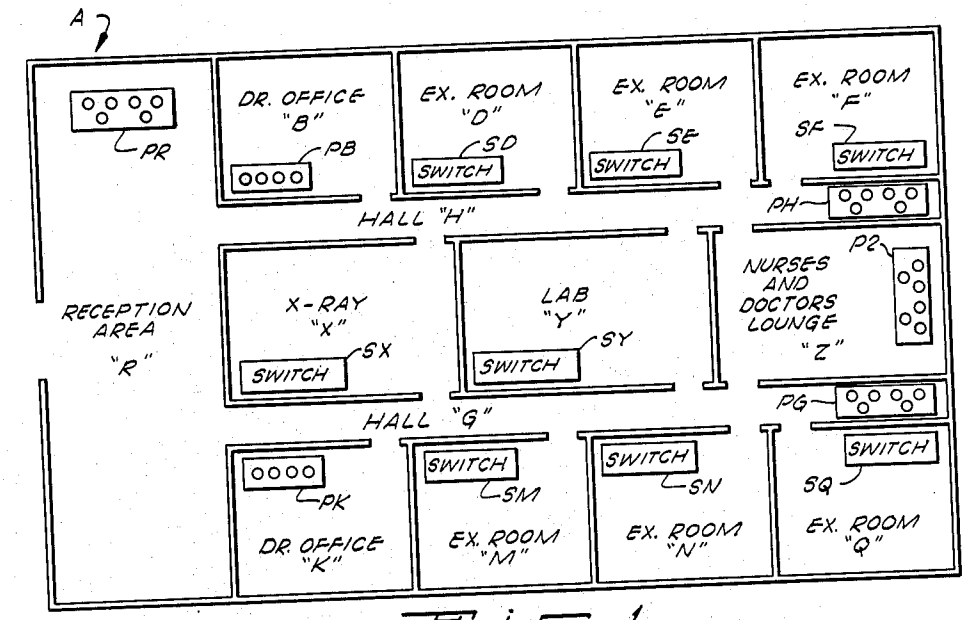


Fig. 1

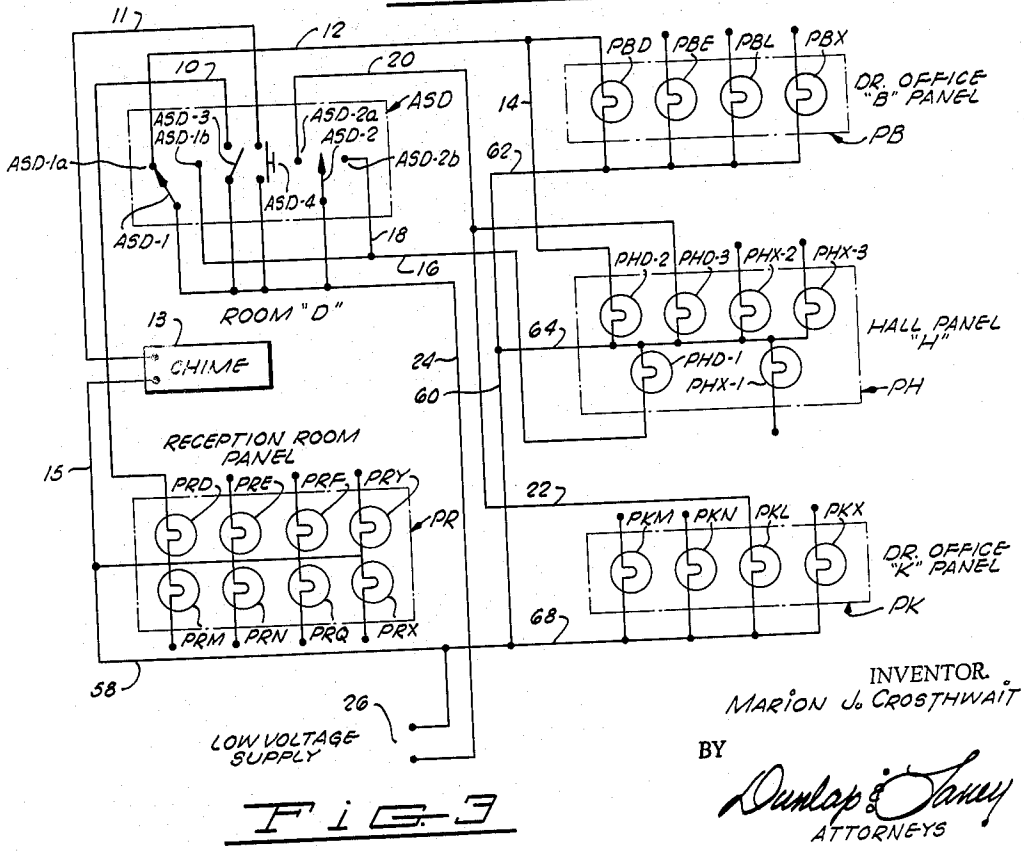


Fig. 3

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SIGNAL SYSTEM

Filed Dec. 30, 1963 2 Sheets-Sheet 2

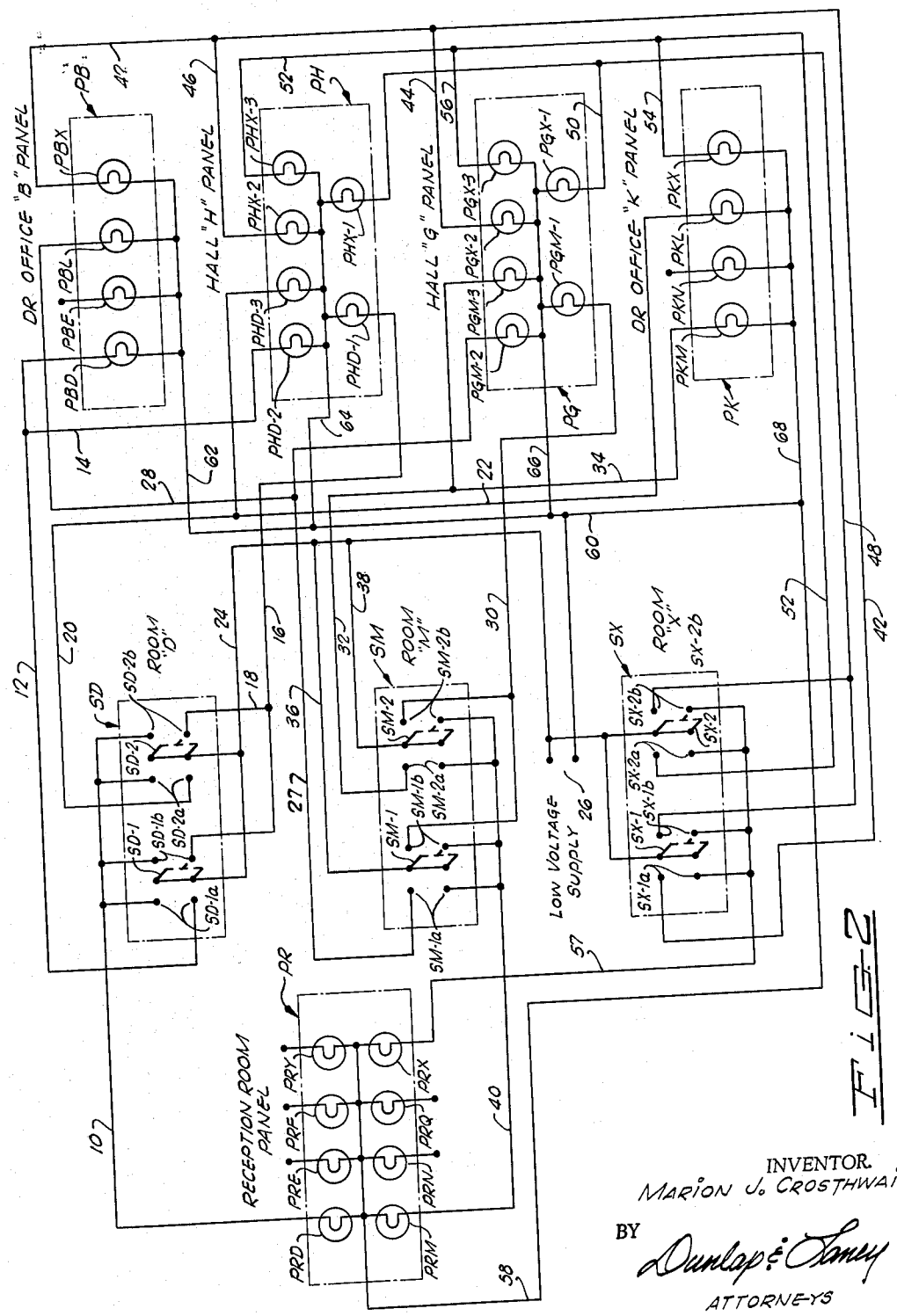


FIG. 2

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3,261,011

SIGNAL SYSTEM

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6 Claims. (Cl. 340—311)

This invention relates generally to signal systems. More particularly, but not by way of limitation, this invention relates to combined audio and visual signal systems useful in connection with medical clinics.

For one reason or another, it is now neccessary for doctors and their staff to see as many patients as possible in order to adequately serve the needs of the public. For this reason, most doctors nowadays have joined in partnerships with one or more other doctors to form medical clinics. In order to see as many patients as possible, most of these clinics provide each doctor with several examining rooms. Also, each doctor will be aided by one or more nurses and other technicians. As can be readily appreciated, with an arrangement wherein several doctors and their examining rooms are integrated into a single clinic, the problem of controlling the flow of patients through the clinic has become rather complex.

Most clinics have added an administrative person known as a receptionist to assist in greeting the patients and in controlling their movement through the clinic. In order to function efficiently, the receptionist must know the status of the various rooms in the clinic. Naturally, for the doctors and nurses to make the most efficient use of their time, they too must know the exact status of each room and, preferably, the status of the patient in each room.

In the past, many clinics have employed the simple expedient of placing coded cards on the doors or door facings of the various examining rooms in order to indicate the status of the room or of the patient within the room. Such a system was laborious and time consuming in that it required that the doctors and nurses visually observe each card on each door in order to know whether they were needed in that particular examining room.

Other signal systems have been employed in the past to indicate the status of the various examining rooms, but most have either been extremely complex or do not provide the required information. Naturally, the goal which each of these signal systems seeks to attain is to inform the doctor, his technical assistants, and the receptionist at an instantaneous glance the exact status of the examining rooms and whether or not they are needed therein.

It is, therefore, one object of the invention to provide an improved signal system which immediately enables each party concerned to know whether or not he is needed in the particular examining room and whether or not the room is empty or occupied.

Another object of the invention is to provide an improved signal system that is easy to install and maintain and that is very simple and economical to manufacture.

Still another object of the invention is to provide an improved signal system that quietly and efficiently indicates that a particular person is needed in a particular room.

A further object of the invention is to provide an improved signal system which promotes the efficient use of all the rooms in the clinic.

A still further object of the invention is to provide an improved signal system which notifies the doctor when he is needed in a particular examining room, thereby freeing him for consultation with other patients.

The invention generally contemplates the use of a plurality of light panels disposed in areas where they

can be observed by the interested personnel. The disposition of the light panels will include placing one panel in the reception area to indicate the status of the various rooms, placing one or more panels in various doctors offices to indicate which room they are needed in, and placing one or more panels in hallways to indicate whether a nurse or doctor is needed and in which room they are needed. Each room will be equipped with switches that are electrically interconnected with the various light panels whereby the appropriate light can be actuated.

The foregoing and additional objects and advantages of the invention will become more apparent as the following description is read in conjunction with the accompanying drawing wherein like reference characters denote like parts in all views and wherein:

FIGURE 1 is a plan view of a typical medical clinic illustrating the disposition of the various switches and light panels therein;

FIGURE 2 is a schematic circuit diagram illustrating the electrical interconnection between the various switches and light panels; and,

FIGURE 3 is a schematic circuit diagram illustrating the electrical interconnection between an alternate switch arrangement and a portion of the light panels.

Referring now to the drawings and to FIGURE 1 in particular, shown therein is a plan view of a typical medical clinic designated generally by the reference character A. Arranged along one wall of the clinic A are a doctor's office B having a light panel PB located therein, and examining rooms D, E, and F, having switch assemblies SD, SE, and SF, respectively, located therein. A hallway H extends along the aforementioned doctor's office and examining rooms. A light panel PH, which will be described in more detail, is located in the hallway H.

A second doctor's office K, having a light panel PK located therein, and examining rooms M, N, and Q, having switch assemblies SM, SN, and SQ, respectively, are arranged along another wall of the clinic A. A hallway G having a light panel PG located therein extends along the doctor's office K and examining rooms M, N, and Q. Located between the hallways H and G is an X-ray room X having a switch assembly SX mounted therein, a laboratory Y having a switch panel SY located therein, and a nurses' and doctors' lounge Z having a light panel PZ located therein.

A reception room or area R, having a light panel PR located therein, is illustrated as extending across one end of the clinic A. The reception room R is connected with the hallways G and H.

FIGURE 2 is a schematic diagram illustrating the electrical connection between the various switches and light panels which were described with respect to the clinic A shown in FIGURE 1. FIGURE 2 is simplified to the extent that only three switches are illustrated, but it should be understood that the remaining switches and panels shown in FIGURE 1 would be connected in a similar manner. The reception room light panel PR has lights PRD, PRE, PRF, PRY, PRM, PRN, PRQ and PRX mounted therein. It should be understood that the lights shown are by way of example only and that the number of lights would be determined by the number of rooms in the particular clinic. It can be observed from the foregoing that the reference characters used to designate particular lights have the room designation as the last part of the reference character in order to simplify the explanation of the electric circuit.

The switch assembly SD, which is located in examining room D, is shown interconnected with the panel PR by a conductor **10**. The switch assembly SD includes a switch SD–1 and a switch SD–2. Each of the switches SD–1

and SD–2 is a double pole, double contact type switch. For purposes of illustration, the switches are shown as being of the blade type with the blades interconnected so that power is supplied to both sides of the knife blade. The switches may be any of the commercially available types which will function as described hereinbelow. Such switches should include two pair of operating contacts which may be alternately energized.

Switch SD–1 includes first and second contacts SD–1*a* and first and second contacts SD–1*b*, and the switch SD–2 includes first and second contacts SD–2*a* and first and second contacts SD–2*b*. The conductor **10** is connected with the first contact SD–1*a*, SD–1*b*, SD–2*a* and SD–2*b* of the switches so that the light PRD in the reception room panel PR will be actuated regardless of the operating position of either switch.

The second contact SD–1*a* of the switch SD–1 is connected by the conductor **12** to the light panel PB located in the doctor's office B. The light panel PB includes a light for each room associated with the doctor's office B, as well as one other light whose purpose will be explained hereinafter. For purposes of simplification, only lights PBD, associated with examining room D, and PBE, associated with examining room E, a light PBL, and a light PBX, associated with the X-ray room X are shown in the panel PB. The conductor **12**, which extends from the first contact SD–1*a* of switch SD–1, which is located in the examining room D, extends to the light PBD in the panel PB located in the doctor's office B. A branch conductor **14** extends from the conductor **12** to a light PHD–2 located in the hall panel PH.

The hall panel PH and the hall panel PG are similar in all respects with the exception of the rooms with which they are interconnected. The hall panel PH and panel PG include a group of three lights associated with each room in the clinic. For example, hall panel PH includes a light PHD–1, a light PHD–2 and a light PHD–3. These three lights all indicate certain operations to be performed in the examining room D. Generally, the light PHD–1 is a white light which indicates that a nurse is needed in the room D. The light PHD–2 is generally a red light which indicates that the doctor occupying office B is needed in room D. The light PHD–3 may be a green light which indicates that the doctor located in office K is needed in examining room D. The hall panel PH also includes a second group of three lights which are interconnected with the X-ray room X, the lights being designated by the reference characters PHX–1, PHX–2 and PHX–3.

As illustrated, hall panel PG also includes two groups of three lights. The first group includes the lights PGM–1, PGM–2 and PGM–3. The M designation in the reference character indicates that these three lights are all associated with examining room M. The second group of lights illustrated in the panel PG are the lights PGX–1, PGX–2 and PGX–3. This group of lights is associated with the X-ray room X.

The panel PK which is located in the doctor's office K includes a series of lights associated with the various examining rooms and rooms common to both doctors, such as the laboratory Y and the X-ray room X. An additional light PKL is shown in the panel PK and its purpose will be explained hereinafter. The lights illustrated in the light panel PK include a light PKM, a light PKN, and a light PKX, in addition to the light PKL previously mentioned.

The additional switch assemblies illustrated, i.e., the switch assembly SM and the switch assembly SX, are similar to the previously described switch assembly SD. The switch assembly SM includes two double pole, double contact switches SM–1 and SM–2. The switch SM–1 has first and second contacts designated by the reference character SM–1*a*, and first and second contacts designated by the reference character SM–1*b*. The switch SM–2 has first and second contacts designated by the reference character SM–2*a*, and first and second contacts designated by the reference character SM–2*b*. Switch assembly SX includes a pair of double pole, double contact switches SX–1 and SX–2. First and second contacts SX–1*a* and first and second contacts SX–1*b* are located on the switch SX–1, and first and second contacts SX–2*a* and first and second contacts SX–2*b* are located on the switch SX–2.

The second contact SD–1*b* is connected by the conductor **16** to the light PHD–1 in the hall panel PH. The second contact SD–2*b* is connected with the conductor **16** by means of a conductor **18**. The second contact SD–2*a* of the switch SD–2 is connected by means of the conductor **20** with the light PHD–3 and by the conductor **22** with the light PKL located in the light panel PK which is in the doctor's office K. To provide the required electrical current to the switch assembly SD, the switches SD–1 and SD–2 are connected by conductor **24** with a source of low voltage potential indicated by the reference numeral **26**. Although the only circuit shown for the examining rooms normally served by the doctor in office B is associated with the switch assembly SD located in the examining room D, it should be understood that similar circuits would be provided for examining rooms E and F, and that each would be interconnected with the light PKL in the light panel located in the doctor's office K. The purpose of the interconnection of all the examining rooms D, E, and F with the light PKL is to enable the doctor located in the office K to be apprised of his need in the examining rooms which are associated primarily with the doctor located in office B.

The second contact SM–1*a* is connected by means of the conductor **27** with the light PGM–2 in the hall panel PG located in hallway G. Since the light PGM–2 designates the need of the doctor located in the office B, it is interconnected by means of a conductor **28** with the light PBL located in the light panel PB which is in the office B. By this interconnection, the doctor located in the office B is apprised of his need in one of the examining rooms, in this instance examining room M, which are primarily associated with the doctor located in office K. The second contacts of the pair of contacts SM–1*b* and SM–2*b* are each connected with a conductor **30** which is connected at its other end with the light PGM–1. The second contact SM–2*a* of the switch SM–2 is connected by means of a conductor **32** with the light PGM–3 in the panel PG. The second contact SM–2*a* is also connected with the light PKM in the light panel PK located in the doctor's office K by means of a conductor **34**. In order to provide current to the switches SM–1 and SM–2, they are connected by means of conductors **36** and **38**, respectively, with the conductor **24** which is connected with the low voltage electrical potential **26**. Each of the switches SM–1 and SM–2 has both the first contacts of each pair of contacts connected with a conductor **40** which is in turn connected with the light PRM in the reception room panel PR, thereby indicating that the room M is occupied in all operating positions of either switch.

Switch assembly SX is illustrated to show the electric interconnection between a room used by both doctors with various light panels. In this instance, switch assembly SX is located in the X-ray room X. The second contact SX–1*a* of the switch SX-1 is connected by means of a conductor **42** with the light PBX located in the light panel PB in the doctor's office B. A branch conductor **44** extends from the conductor **42** to the light PGX–2 located in the panel PG in hallway G. A branch conductor **46**, in a similar manner, connects the conductor **42** with the light PHX–2 located in the light panel PH in hallway H. The second contacts of each pair of contacts SX–1*b* and SX–2*b* of switches SX–1 and SX–2, respectively, are connected by means of a conductor **48** with the light PHX–1 in the light panel PH in hallway H. A branch conductor **50** extends from the conductor **48** to the light PGX–1 located in the light panel PG in hallway G. The second contact SX–2*a* of the switch

SX–2 is connected by means of a conductor **52** with the light PHX–3 located in the light panel PH in hallway H. A branch conductor **54** connects the conductor **52** with the light PKX located in the panel PK in the doctor's office K. A branch conductor **56** connects the conductor **52** with the light PGX–3 located in the light panel PG which is in hallway G. The switches SX–1 and SX–2 have the first contact of each pair of contacts connected, by means of a conductor **57**, with the light PRX in the reception room panel PR so that the light PRX will be energized in either operating position of either of the switches.

To complete the electrical circuits from the light panels, the panel PR located in the reception room R has each light connected by means of a conductor **58** with a conductor **60** which is in turn connected with the low voltage potential **26**. Also connected with the conductor **60** is a conductor **62** which is connected with each light in the panel PB, a conductor **64** which is connected with each light in the hallway panel PH, a conductor **66** which is connected with each light in the hallway panel PG, and a conductor **68** which is connected with each light in the light panel PK. It should be pointed out that additional light panels, such as the panel PZ located in the nurses' and doctors' lounge Z (see FIGURE 1) can be provided if desired.

To explain the operation of the call system of this invention, assume that a patient of the doctor in office B comes into the reception room R. The receptionist will examine the light panel PR and upon finding, for example, that the light PRD is out will know that examining room D is not occupied. The patient is then taken to examining room D and the receptionist moves the switch SD–1 of switch assembly SD to the position closing the circuit through the contacts SD–1*b*. With the switch in this position, the light PRD in the receptionist's panel PR is lighted and the light PHD–1 is lighted since the circuit through conductor **16** is also closed. This indicates that a patient is in the examining room D and that a nurse is needed to prepare the patient for the doctor. After the nurse has completed the preparation of the patient, she moves the switch SD–1 to a position closing the contacts SD–1*a*. This completes the circuit through the conductor **12**, lighting the light PBD on the doctor's panel and, through the conductor **14**, also lighting the light PHD–2 in the hall light panel which is located in hallway H. If the doctor is in the office B, he will observe that the light PBD is burning and knows that he is to go to room D. If the doctor happens to be in the hallway H, then he will know by observing that light PHD–2 is lighted in the hall light panel PH that he is needed in room D. If he finds upon examining the patient in room D that he needs the nurse's assistance, then he can, of course, move the switch SD–1 to the position closing the circuit through the contacts SD–1*b*, thereby lighting the light PHD–1 of the hall light panel PH, indicating that a nurse is needed in the examining room D. Upon completion of the examination, the doctor will move the switch SD–1 to the position wherein the contacts SD–1*b* are closed, notifying the nurse that she is needed in the room. After the room has been restored and is ready for another patient, the nurse moves the switch SD–1 to an "off" position so that the light PRD in the receptionist's panel PR is turned off. With the light out, the receptionist knows that examining room D is ready for another patient.

Assume now that the examining rooms M, N, and Q, belonging to the doctor located in the doctor's office K, are all occupied, and that an additional patient comes into the reception room R to see the doctor located in office K. The receptionist will examine the reception room light panel PR and, upon finding that the light D is not burning, she can show the patient to the examining room D. She will then move the switch SD–2 of the switch assembly SD located in the examining room D to a position wherein the circuit through the contacts SD–2*b* is closed, thereby notifying a nurse by lighting the light PHD–1 in the hallway H that she is needed in the examining room D. Simultaneously, the light PRD will be actuated in the reception room panel PR, indicating that examining room D is occupied. After the nurse has completed preparation of the patient, she will move the switch SD–2 to a position closing the contacts SD–2*a* which will, through the conductor **20**, light the light PHD–3 in the hall panel PH located in hallway H. Also, the light PKL will be actuated through the conductor **22**, indicating in the doctor's office K that the doctor is needed in one of the examining rooms associated with the hallway H. The doctor in office K will not know in which room he is needed, but upon walking into the hallway H and observing that light PHD–3 is lighted in the panel PH located therein, will know that he is needed in examining room D.

Assuming that a patient comes into the reception room to see the doctor located in office K, the receptionist will observe the panel PR located in the reception room R and upon finding that the examining room M is not occupied, will show the patient to that room. Upon reaching the examining room M, she will move the switch SM–2 to the position closing the contacts SM–2*b*, thereby completing the circuit through the conductor **30** and actuating the light PGM–1 located in the hall panel PG which is in hallway G. This indicates that a nurse is needed in the examining room M. After the nurse has completed preparation of the patient, she will move the switch SM–2 to the position closing the contacts SM–2*a*. This closes the circuit through the conductor **32**, actuating the light PGM–3 in the hall light panel PG, and through branch conductor **34**, lighting the light PKM in the light panel PK located in the doctor's office K. The doctor, observing that the lights PGM–3 or PKM are lighted, will know that he is needed in examining room M. The switches SM–1 and SM–2, as previously described, are connected to the light PRM located in the receptionist's panel PR so that closing either switch in either position will actuate the light PRM, indicating to the receptionist that the examining room M is occupied.

Assuming that the examining rooms D, E, and F, associated with the doctor's office B, are all occupied, and a patient of the doctor located in office B comes into the reception room, the receptionist will observe the light panel PR to see if an examining room is unoccupied. If the examining room M is not occupied, the receptionist will show the patient to that room and move the switch SM–1 to a position closing the contacts SM–1*b*. Moving the switch to this position actuates the light PGM–1 through the conductor **30**, indicating that a nurse is needed in the examining room M. After the nurse has completed preparation of the patient, she will move the switch SM–1 to a position closing the contacts SM–1*a* and thereby actuate the light PGM–2 located in the hall panel PG of hallway G, and through branch conductor **28**, actuate the light PBL located in the light panel PB of the doctor's office B. Actuation of the light PBL in the doctor's office B will indicate to that doctor that he is needed in an examining room associated with the hallway G, but does not indicate in which room he is needed. Upon observing the hall panel PG in the hallway G, the doctor can determine, since the light PGM–2 is burning, that he is needed in the examining room M.

It can be appreciated from the foregoing description of the circuits that maximum utilization of the various examining rooms can be obtained since it is possible to utilize the examining rooms of one doctor for the patients of a doctor located in another area and yet be able to notify him immediately that he is needed in that remote area.

There are some areas or rooms which will be common to both the doctors occupying the offices B and K. For example, the X-ray room X and the laboratory Y will be utilized by patients of both doctors. To more clearly illustrate the use of the rooms and control of the patients in these common rooms, FIGURE 2 shows a circuit as-

sociated with the X-ray room X. As shown in FIGURE 2, the switch assembly SX, which has switches SX–1 and SX–2 therein, is located in the X-ray room X. Assuming that a patient of the doctor located in office B entered the clinic for X-ray treatment, the receptionist would show the patient to the X-ray room X and move the switch SX–1 to a position closing the contacts SX–1*b*. Closing the circuit through these contacts will actuate the light PHX–1 in the hall panel PH located in hallway H and simultaneously, through a branch conductor **50**, actuate the light PGX–1 located in panel PG in hallway G. After the patient has been prepared by the nurse, the switch is moved to a position closing the contacts SX–1*a* which actuate the light PBX located in the panel PB in doctor's office B, and simulanteously, through branch conductor **44**, actuate the light PGX–2 in the hall panel PG located in hallway G and the light PHX–2 through the branch conductor **46**, in the panel PH located in the hallway H, thereby indicating that the doctor located in office B is needed in the X-ray room.

Should the patient belong to the doctor occupying the office K, it can be observed that a similar circuit arrangement provides for notification of the nurse and the doctor in office K that their services are needed in the X-ray room. It should also be pointed out that each of the first contacts of each pair of contacts of both switches located in the switch assembly SX is connected through a conductor **57** to the light PRX in the reception room panel PR, indicating to the receptionist when either switch is actuated that the X-ray room is occupied.

FIGURE 3 illustrates a portion of the aforedescribed circuits and the use of an alternate form of the switch assembly, designated as ASD. It should be pointed out that the switch assembly ASD is equally applicable to any of the switch assemblies previously described. As shown therein, the switch assembly ASD includes ASD–1, a switch ASD–2, a switch ASD–3 and a switch ASD–4. The switch ASD–1 has a contact ASD–1*a* and a contact ASD–1*b*. Likewise, the switch ASD–2 is provided with a contact ASD–2*a* and a contact ASD–2*b*. The switch ASD–3 is a single contact type switch, which is connected through the conductor **10** to the light PRD located in the reception room panel PR. The switch ASD–4 is a double contact push button switch, connected by a conductor **11** to a chime **13**. The chime **13** is connected by a conductor **15** to the conductor **58** which is connected with the source of potential **26**.

Assuming that a patient of the doctor located in office B comes into the reception room R, the receptionist will observe that the examining room D is unoccupied and will show the patient to that room. The receptionist will close the switch ASD–3, thereby lighting the light PRD in the reception room panel PR, through the conductor **10**. She will also move the switch ASD–1 to a position wherein the contact ASD–1*b* is closed, therby actuating the light PHD–1 through the conductor **16**, indicating that a nurse is needed in examining room D. After the nurse has completed preparation of the patient in examining room D, she will move the switch ASD–1 to a position closing the contact ASD–1*a*, thereby actuating the light PBD located in light panel PB in the doctor's office B, and, through the branch conductor **14**, actuating the light PHD–2 located in the hall panel PH which is located in hallway H. Actuation of these two lights will indicate to the doctor located in office B that he is needed in examining room D.

It can be observed from the foregoing description that the primary difference between the alternate switch assembly ASD and the switch assembly SD is the provision of the third switch ASD–3 which remains closed and maintains the reception room panel light lighted at all times. The switch ASD–4 is an additional feature illustrated in connection with the switch assembly ASD, but it should be apparent that the switch ASD–4 and its associated chime circuit could be utilized in any of the previously described switch assemblies.

After the doctor has completed the examination of the patient in examining room D, he will move the switch ASD–1 to a position closing the contact ASD–1*b*, thereby actuating the light PHD–1, indicating to the nurse that she is needed in examining room D. After the nurse has completed cleaning the room, she will move the switch ASD–1 to an "off" position, turning off the light PHD–1. In addition, she will move the switch ASD–3 to an "off" position to turn off the light PRD in the reception room panel PR.

Should the patient belong to the doctor located in office K, the receptionist, upon observing that all of doctor K's examining rooms are filled, may place the patient in unoccupied examining room D. She will then close the switch ASD–3, indicating on the panel PR that the examining room D is occupied. At the same time, she will move the switch ASD–2 to a position closing the contact ASD–2*b*, indicating that a nurse is needed in examining room D by lighting the light PHD–1 in panel PH through the conductors **18** and **16**. After the nurse has completed preparing the patient, she will move the switch ASD–2 to a position closing the contact ASD–2*a* which, through conductor **20**, actuates the light PHD–3 in the panel PH in hallway H and, through branch conductor **22**, actuates the light PKL located in the light panel PK in doctor's office K. As previously described, the actuation of light PKL does not indicate to the doctor in office K in which examining room he is needed, but rather indicates that he is needed in an examining room in the area of hallway H. Upon moving into hallway H and observing the panel PH therein, he can see that the light PHD–3 is lighted indicating that he is needed in examining room D.

The chime **13** may be provided with any of the foregoing signal arrangements whereby attention may be audibly called to the light panels. Should a person fail to answer the visual signal promptly, or should an emergency exist, then the switch ASD–4 can be depressed, energizing the chime **13**. The audible chime indicates to everyone within hearing that they should check the visual light panel to see if they are needed.

From the foregoing description it will be apparent that a signal system constructed in accordance with this invention provides a simple and economical call system which utilizes dependable and well-known basic components, thereby providing a system requiring very little maintenance. As can be realized, there is no particular limit to the number of examining rooms or separate circuits which can be provided to fit the needs of a variety of professional situations. For example, the signal system of this invention could be used in an organization wherein the client has to fill out certain forms or applications prior to being interviewed by a person who will make a decision based upon these forms. Such a business organization might be a loan company, wherein applicants for loans would be escorted to small rooms comparable to the examining rooms of the described clinic. They would then be given certain forms, such as forms regarding credit and financial responsibility, to fill out prior to being interviewed by one of the loan officers. Naturally, the signal system of this invention could also be used in connection with a dental clinic wherein certain operations are necessarily performed by a technician prior to and during the dentist's examination or treatment of the particular patient.

It has been proven by actual use in a medical clinic that this signal system permits an individual doctor to more efficiently utilize his time, thereby permitting him to handle at least three or four additional patients each day. In addition to providing a more efficient use of the doctor's time, it should be apparent that the physical facilities, i.e., the various examining rooms of a medical clinic, can be more fully utilized, thereby expediting a patient's movement through the clinic and resulting in better public relations and more efficient treatment.

It should be understood that the embodiments described herein and shown are by way of example only, and that

many variations and modifications can be made thereto without departing from the spirit of the invention or from the scope of the annexed claims.

What I claim is:

1. A signal system comprising:
a source of electrical potential;
a group of remotely located switch means operably connected with said electrical potential;
each switch means including a first and a second switch having two pair of contacts, each pair of contacts having a first and second contact;
a first light panel having a plurality of electric lights therein, providing a separate light for each switch means;
means connecting each light in said first light panel with the first contact of both pair of contacts of said first and second switches in the corresponding switch means, whereby a particular light in said first light panel is energized by closing either switch of the corresponding switch means;
a second light panel having a plurality of lights therein, providing a separate light for each switch means;
means connecting each light in said second light panel with the second contact of the first pair of contacts of said first switch in the corresponding switch means, whereby a particular light in said second light panel is energized by closing said contact of the first switch of the corresponding switch means;
a third light panel having a plurality of electric lights therein, providing a separate light for each switch means;
means connecting each light in said third light panel with a second contact of said first pair of contacts of said second switch in the corresponding switch means, whereby a particular light in said third light panel is energized by closing said contact of the second switch of the corresponding switch means;
a fourth light panel having a plurality of sets of first, second and third electric lights therein, providing first, second and third electric lights for each switch means;
means connecting each of said first electric lights with a second contact of said second pair of contacts of said first and second switches in the corresponding switch means, whereby one of said first electric lights in said fourth light panel is energized by closing said contact of either switch of the corresponding switch means;
means connecting each of said second electric lights in parallel with a corresponding electric light in said second light panel, whereby one of said second electric lights is energized simultaneously with the corresponding electric light in said second light panel;
means connecting each of said third electric lights in parallel with a corresponding electric light in said third light panel, whereby one of said third electric lights is energized simultaneously with the corresponding electric light in said third light panel; and,
means connecting each of said electric lights with said electrical potential.

2. A signal system comprising:
a source of electrical potential;
first and second groups of remotely located switch means operably connected with said electrical potential;
each switch means including a first and second switch having two pair of contacts, each pair of contacts having a first and a second contact;
a first light panel having a plurality of electric lights therein, providing a separate light for each switch means;
means connecting each light in said first light panel with the first contact of both pair of contacts of said first and second switches in the corresponding switch means, whereby a particular light in said first light panel is energized by closing either switch in the corresponding switch means;
a second light panel having a plurality of electric lights therein, a separate light for each switch means in said first group and one light for all the switch means in said second group;
means connecting said one light in said second light panel with all the second contacts of the first pair of contacts of the second switches in said second group of switch means;
means connecting the remaining lights in said second light panel with the second contact of the first pair of contacts of the first switch of the corresponding switch means of said first group;
a third light panel having a plurality of lights therein, providing a separate light for each switch means in said second group and one light for all the switch means in said first group;
means connecting said one light in said third light panel with all the second contacts of the first pair of contacts of the first switches in said first group of switch means;
means connecting the remaining lights in said third light panel with the second contact of the first pair of contacts of said second switches of the corresponding switch means of said second group;
fourth and fifth light panels having a plurality of sets of first, second, and third lights therein, providing first, second, and third lights for each switch means;
means connecting each of said first lights in said fourth light panel with the second contact of the second pair of contacts of both switches in said first group of switch means, whereby one of said first lights in said fourth light panel is energized by closing said contact of either switch of a corresponding switch means;
means connecting each of said second lights in said fourth light panel in parallel with a corresponding light in said second light panel, whereby one of said second lights is energized simultaneously with the corresponding light in said second light panel;
means connecting said third lights in said fourth light panel in parallel with said one light in said third light panel whereby said one light in said third light panel will be energized simultaneously with the actuation of any of said third lights in said fourth light panel;
means connecting each of said first lights in said fifth light panel with a second contact of said second pair of contacts of both switches in said second group of switch means, whereby one of said first lights in said fifth light panel is energized by closing said contact of either switch of a corresponding switch means;
means connecting each of said second lights in said fifth light panel in parallel with said one light in said second light panel, whereby said one light in said second light panel is energized simultaneously with the actuation of any of said second lights in said fifth light panel;
means connecting each of said third lights in said fifth light panel in parallel with a corresponding light in said third light panel, whereby one of said third lights is energized simultaneously with the corresponding light in said third light panel; and,
means connecting said lights with said electrical potential.

3. The signal system of claim 2, and also including:
a third group of switch means having first and second switches having two pair of contacts, each pair of contacts having a first contact and a second contact;
each switch having the first contact of each pair of contacts connected with a corresponding light in said first panel;
means connecting said third group of switch means to said electrical potential;
an additional set of first, second, and third lights in said

fourth and fifth light panels associated with said third group of switch means;

means connecting one of said first lights in said additional set of lights in said fourth and fifth light panels to the second contact of the second pair of contacts of the first and second switches in said third group of switch means, whereby closing of said contact energizes one of said first lights in said fourth and fifth light panels simultaneously;

means connecting one of said second lights in said additional set of lights in said fourth and fifth light panels with the second contact of the first pair of contacts of the first switch in said third group of switch means and with a corresponding light in said second light panel, whereby closing said contact of said first switch energizes said second light in said fourth and fifth panels and the corresponding light in said second light panel simultaneously; and,

means connecting one of said third lights in said additional set of lights in said fourth and fifth light panels with the second contact of said first pair of contacts of the second switch in the third group of switch means and with a corresponding light in said third light panel, whereby closing said contact energizes said third light in said fourth and fifth panels and the corresponding light in said third light panel simultaneously.

4. A signal system comprising:

a source of electrical potential;

a group of remotely located switch means operably connected with said electrical potential;

each switch means including first, second, and third switches;

said first and second switches each having first and second contacts;

a first light panel having a plurality of lights therein, providing a separate light for each switch means;

means connecting each light in said first light panel with said third switch in a separate switch means, whereby a particular light in said first light panel is actuated by closing the corresponding third switch;

a second light panel having a plurality of lights therein, providing a separate light for each switch means;

means connecting each light in said second light panel with the first contact of said first switch in the corresponding switch means, whereby a particular light in said second light panel is actuated by closing the first contact of the first switch of the corresponding switch means;

a third light panel having a plurality of electric lights therein, providing a separate light for each switch means;

means connecting each light in said third light panel with a first contact of said second switch in the corresponding switch means, whereby a particular light in said third light panel is actuated by closing a first contact of the second switch of the corresponding switch means;

means connecting each of said first electric lights with a second contact of said first and second switches in the corresponding switch means, whereby one of said first electric lights in said fourth light panel is energized by closing the second contact of either switch of the corresponding switch means;

means connecting each of said second electric lights in parallel with a corresponding electric light in said second light panel, whereby one of said second electric lights is energized simultaneously with the corresponding electric light in said second light panel;

means connecting each of said third electric lights in parallel with a corresponding electric light in said third light panel, whereby one of said third electric lights is energized simultaneously with the corresponding electric light in said third light panel; and,

means connecting each of said electric lights with said electrical potential.

5. A call system for a medical clinic housing first and second doctors, with each doctor having an office and a series of examining rooms adjoining a hallway, associated with the respective doctor, but with the doctors sharing a common reception room, comprising:

a panel of lights in the reception room providing a separate light for each examining room in the clinic;

a panel of lights in each doctor's hallway providing a first doctor's light, a second doctor's light, and a nurse's light for each examining room associated with the hallway;

a panel of lights in each doctor's office providing a separate light for each examining room associated with the respective doctor, and providing a light to indicate the need of the respective doctor in the other doctor's hallway;

first switch means in each of the first doctor's examining rooms connected to the corresponding light in the reception room, the corresponding nurse's light in the associated hallway, the corresponding first doctor's light in the associated hallway, and the associated light in the first doctor's office for signalling the first doctor in one closed position thereof and for signalling the nurse in a second closed position thereof, and for continuously energizing the associated reception room light when the first switch means is in either closed position to indicate the presence of a patient in the respective examining room;

second switch means in each of the first doctor's examining rooms connected to the corresponding light in the reception room, the corresponding nurse's light in the associated hallway, the corresponding second doctor's light in the associated hallway and the light in the second doctor's office indicating the need of the second doctor in the hallway associated with the first doctor for signalling the second doctor in one closed position thereof, for signalling the nurse in a second closed position thereof, and for continuously energizing the associated reception room light in any closed position of said second switch means to indicate the presence of a patient in the respective examining room;

first switch means in each of the second doctor's examining rooms connected to the corresponding light in the reception rom, the corresponding nurse's light in the associated hallway, the corresponding second doctor's light in the associated hallway and the associated light in the second doctor's office for signalling the second doctor in one closed position of the first switch means, for signalling the nurse in a second closed position of the first switch means, and for continuously energizing the associated reception room light in any closed position of the first switch means to indicate the presence of a patient in the particular examining room; and,

second switch means in each of the second doctor's examining rooms connected to the corresponding light in the reception room, the corresponding nurse's light in the associated hallway, the corresponding first doctor's light in the associated hallway, and the light in the first doctor's office indicating the need of the first doctor in the second doctor's hallway, signalling the first doctor in one closed position of the first switch means, for signalling the nurse in a second closed position of the switch means, and for continuously energizing the associated reception room light in either closed position of the respective switch means to indicate the presence of a patient in the respective examining room.

6. The call system of claim 5, wherein the medical clinic also has at least one common treatment room shared by both doctors, and also including:

a separate light in the panel of lights in the reception room associated with the common treatment room;

a first doctor's light, a second doctor's light, and a nurse's light in each panel of lights in each doctor's

hallway associated with the common treatment room;

a separate light in each panel of lights in each doctor's office associated with the common treatment room;

first and second switch means in the common treatment room, each connected to the corresponding light in the reception room and the corresponding nurse's light in each hallway;

said first switch means being connected with the corresponding doctor's light in each hallway and with the respective light in the first doctor's office; and,

said second switch means being connected with the corresponding doctor's light in each hallway and with the respective light in the second doctor's office.

No references cited.

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