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Simonson

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[54] **TIMECLOCK SURVEILLANCE SYSTEM**

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[52] **U.S. Cl.** ..... **346/107 R,** 95/1.1

[51] **Int. Cl.** **G01d 9/42**

[58] **Field of Search** ..... 346/107 R, 107 VP, 346/107 A, 107 C, 107 MP; 95/1.1

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[57] **ABSTRACT**

A timeclock surveillance system according to which a camera photographs an individual operating a timeclock while at the same time photographing an indication of the time and date, so that with the resulting photograph it is possible to check that an individual operating a timeclock is the proper individual for the particular card on which the time is punched by the timeclock.

8 Claims, 4 Drawing Figures

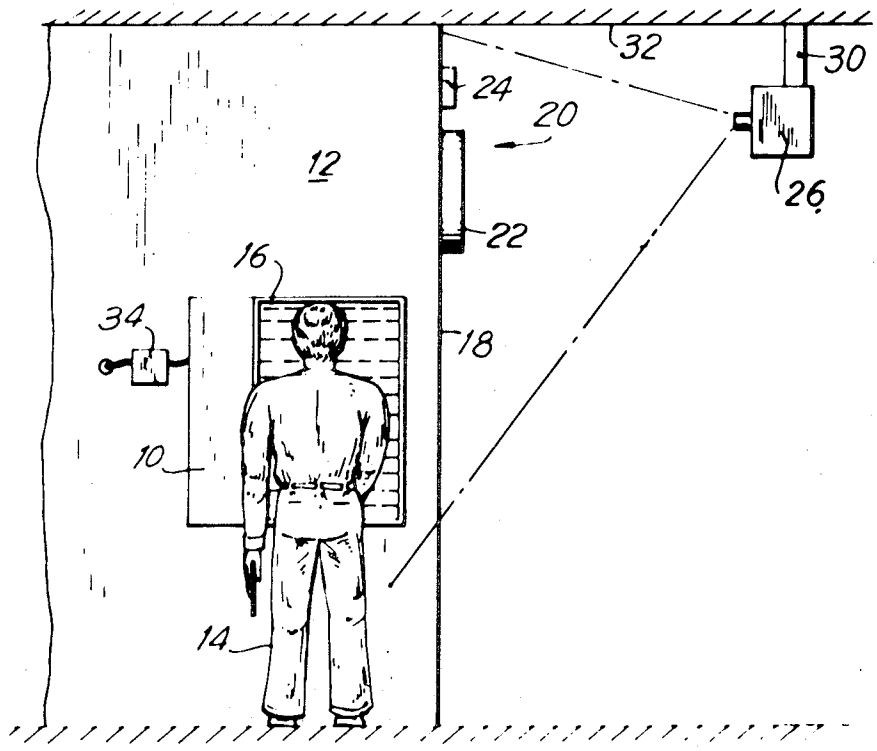

FIG. 1

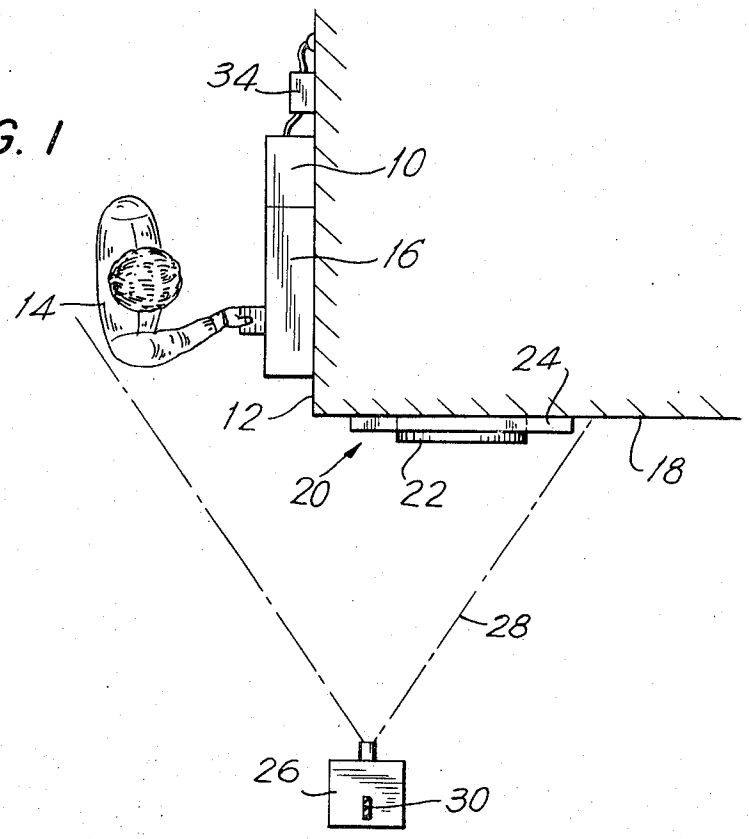
34
10
16
14
24
12
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FIG. 2

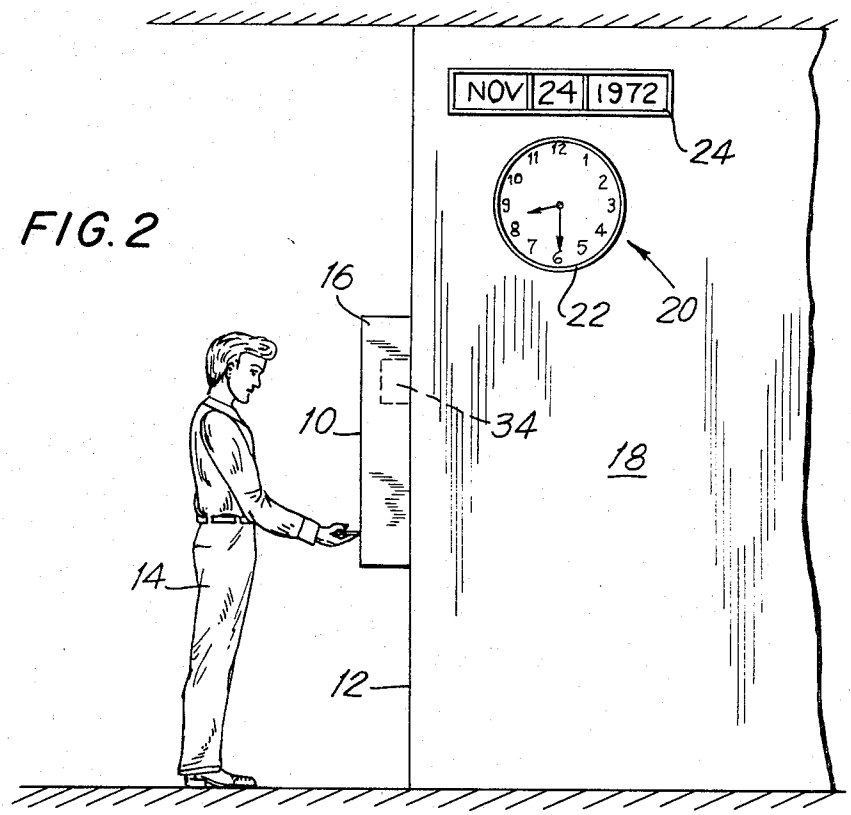
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FIG. 3

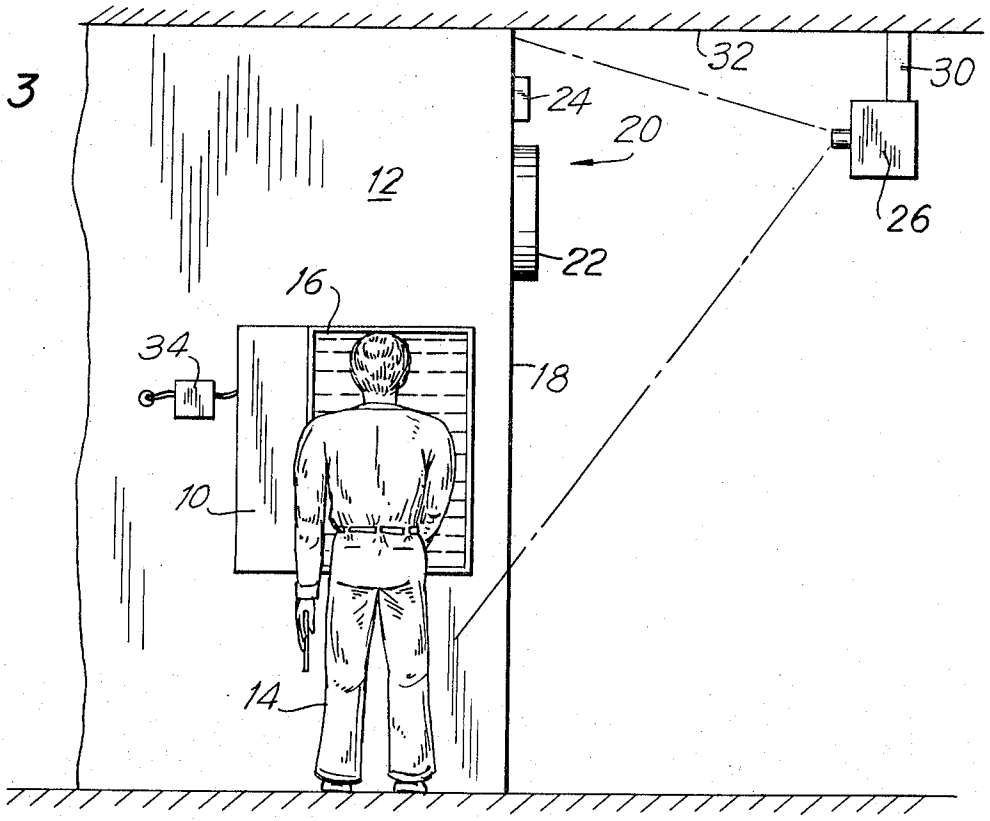
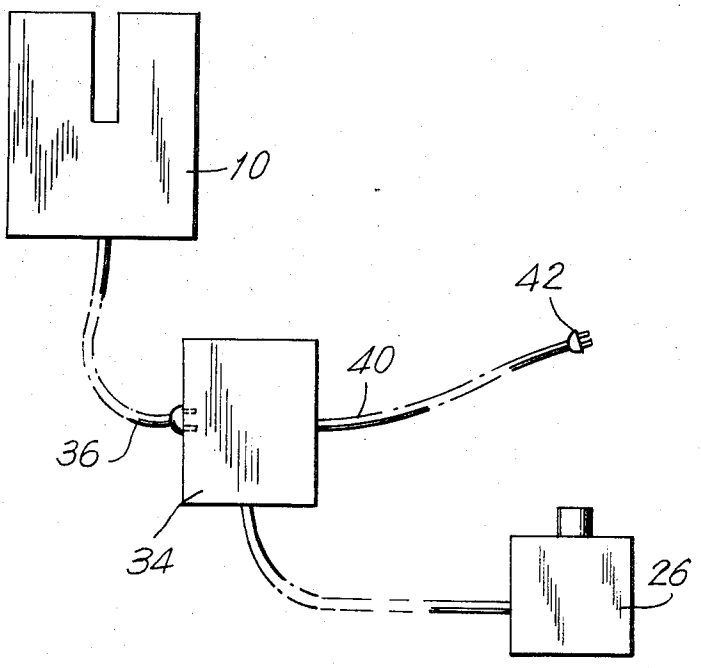


FIG. 4



TIMECLOCK SURVEILLANCE SYSTEM

BACKGROUND OF THE INVENTION

The present invention relates to surveillance systems.

In particular, the present invention relates to a timeclock surveillance system according to which the individual operating the timeclock is photographed simultaneously with an indication of the time and date.

It has already been proposed to provide systems according to which an individual operating a timeclock is photographed. The purpose of such systems is to make sure that an individual introduces only his own card into a timeclock. For example it is well known that if an employee of a given company is absent, it is possible for another employee to introduce the card of the absent employee into the timeclock, providing in this way a false indication that the absent individual is present. In an attempt to avoid fraudulent operations of this type there are known constructions capable of photographing an individual when a timeclock is operated. However, all the known constructions suffer from the drawback of requiring special structures which are relatively expensive. Thus, with conventional structures of this type special timeclocks must be provided with special cameras hidden within the timeclocks and with special constructions which will enable photographs to be made without the individual operating the timeclock knowing that the photographs are made, and exceedingly complex and expensive constructions are provided for enabling a camera of this type to photograph not the individual but also the time of day and the date. Thus, in order to be able to use conventional surveillance systems of this type it is necessary to purchase special timeclocks provided with special hidden cameras and special constructions which enable the camera to make a proper photograph to provide the required surveillance.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a construction capable of avoiding these drawbacks.

Thus, it is an object of the invention to provide a construction which is relatively simple and inexpensive and which at the same time is capable of achieving the desired results.

In particular it is an object of the present invention to provide a construction which enables a conventional timeclock to be used with the system of the present invention, so that there is no need for a company to purchase an expensive timeclock which is designed in a highly specialized manner for taking photographs when the timeclock is operated.

Moreover, it is an object of the present invention to provide a system of the above type which does not require any structure to be hidden from the operator of the timeclock.

In addition, it is an object of the present invention to provide a system of the above type which is capable of utilizing conventional units which need not be constructed especially for the purposes of the present invention.

At the same time, it is an object of the present invention to provide a surveillance system of the above type which is highly reliable in operation while being inexpensive and simple to install and maintain.

According to the invention the surveillance system includes a timeclock means which is operated in a conventional manner when an individual introduces a card into the timeclock to have the time punched on the card. A camera means is provided for photographing the individual and a positioning means positions the camera means so that the individual is in the field of view of the camera in such a way that when the photograph is made the individual can be readily identified. An actuating means is operatively connected on the one hand with the timeclock means and on the other hand with the camera means for actuating the latter automatically to make a photograph whenever an individual introduces a card into the timeclock means to operate the latter. In addition an indicating means is provided for indicating the time and date, and this indicating means is also located in the field of view of the camera means, so that when the latter is automatically actuated to make the above photograph there is also included in the photograph the time and the date, so that the individual, the time, and the date can all be connected together.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is illustrated by way of example in the accompanying drawings which for form part of this application and in which:

FIG. 1 is a schematic plan view of a system according to the present invention;

FIG. 2 is a schematic side elevation showing the arrangement of an indicating means together with the arrangement of a timeclock and an individual operating the same;

FIG. 3 is a schematic elevation also showing the arrangement of the components of the present invention; and

FIG. 4 is a schematic representation of the manner in which components of the surveillance system are electrically connected to each other.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to the drawings, FIGS. 1–3 schematically illustrate the surveillance system of the present invention. Thus, referring to FIGS. **1–3,** there is illustrated therein a timeclock means **10** carried by the wall **12.** FIG. **2** shows an individual **14** situated at the timeclock means **10** to operate the latter. As is shown in FIG. **1** the timeclock means **10** is situated beside a rack **16** which contains cards from which the individual **14** will select his own card to introduce into the timeclock means in order to actuate the latter for indicating such information as the time when the individual arrives at work and the time when the individual leaves his work, such as for going home, going out to lunch, etc. In the illustrated example there is a wall **18** which is perpendicular to the wall **12,** and this wall **18** carries an indicating means **20** in the form of a clock **22** which may be a conventional electric clock as well as a calender **24** which indicates the date. This calender is of the type which indicates in relatively large letters the month, the day, and the year.

As is apparent from FIGS. **1** and **3,** the system of the invention further includes a camera means **26** which includes in its field view **28** not only the individual **14,** but also the indicating means **20.** A positioning means **30** is provided to position the camera means **26** so that the individual **14** as well as the indicating means **20** will

both be in the field of view. This positioning means **30** may be in the form of a simple bracket fixed on the one hand to a ceiling **32** and on the other hand to the camera **26** so as to support the latter.

The camera **26** is preferably a motion picture camera which can be fully conventional. Thus, a type of camera known as a single-8 camera may be used. Such conventional motion picture cameras have adjustments enabling them to make single-frame exposures. In other words when the camera is tripped only one frame will be exposed. This camera means **26** is preferably this type of motion picture camera which is set to make single-frame exposures. Moreover, the camera **26** is capable of being electrically operated. For example, the shutter has a projection engaging a stop member which may be solenoid actuated so that each time the solenoid receives a pulse the armature is retracted and immediately released so that the shutter will make one revolution and will again be stopped, thus enabling the single-frame operation to take place.

An actuating means **34** is provided for actuating the camera means **26.** The actuating means **34** is in the form of a simple box including the electrical components required to bring about the operation of the surveillance system. Referring to FIG. **4** it will be seen that the timeclock means **10** has a conductor **36** terminating in a plug **38** which normally would be introduced into a wall outlet. However, in this case the plug **38** is received in a suitable receptacle provided for the actuating means **34.** This actuating means **34** is itself provided with a conductor **40** and a plug **42** capable of being introduced into a wall outlet. Thus, the actuating means **34** is electrically connected in series between the source of current and the timeclock means. When the latter is actuated by the operator the circuit to the source of electrical current will be completed through the actuating means **34.** This circuit includes a solenoid, for example, which closes a switch for completing the circuit to the camera, and then the above-mentioned solenoid of the camera is actuated to trip the camera to make a single exposure.

Thus, in this way with the above relatively simple structure it is possible for the camera means to be tripped to make an exposure including not only the individual **14** in a manner according to which this individual can be readily identified in the photograph but also the indicating means **20** which simultaneously indicates the time and date when the individual operated the timeclock.

It will be noted that the timeclock means **10** is not altered in any way. This can be a conventional timeclock means. Moreover, the camera **34** is a conventional camera as pointed out above. The actuating means **34** is a simple type of electrical unit which on the one hand completes the circuit to the timeclock means and on the other hand is capable of actuating the camera means **34** as described above. This actuating means **34** can be conveniently mounted on the wall **12** in the vicinity of the timeclock means **10,** as shown in FIG. **1,** and the wiring from the actuating means **34** to the camera can extend along the wall at the corners of the ceiling, for example.

It will be noted that no attempt is made to hide the camera from the individual **14.** This is one of the features of the present invention. It has been found from experience that it is good psychology to let the individuals know that they are being photographed so that they are less likely to attempt a fraud. Thus, because the camera is not hidden the structure of the invention is considerably simplified as compared to conventional structures and at the same time the incidence of fraudulent operation is greatly reduced.

It is a simple matter to keep the camera properly supplied with film, and from time to time the exposed film will be removed and replaced with unexposed film.

Whenever the managing system of a given corporation wishes to check on any given individual, that individual's time card is examined together with the photographs which are made with the surveillance system of the present invention. As long as the photographs show the particular individual at the times which match those of the timeclock, it is known that no fraud has been perpetrated. The clock of the timeclock means and the clock **22** of the indicating means **20** are both electric clocks, for example, which are synchronized so that they both indicate the very same time and operate in synchronism with each other so that there is a perfect match between the time in the photograph and the time on the timeclock.

Thus, it will be seen that with the present invention an exceedingly effective surveillance system is achieved enabling the desired results to be achieved primarily with conventional structures in an inexpensive but highly reliable manner.

What is claimed is:

1. In a surveillance system, timeclock means for punching on a card the time when an individual introduces the card into the timeclock means, camera means for making a photograph, positioning means supporting said camera means at a location where the individual operating the timeclock means is in the field of view of the camera means so that the latter can make a photograph of the individual in a manner according to which the individual can be readily identified in the photograph, actuating means operatively connected with said timeclock means and said camera means for automatically actuating the latter to make a photograph when the timeclock means is operated by the individual, and indicating means for indicating the time and date, said indicating means being located also in the field of view of said camera means so that when the latter is automatically actuated to photograph the individual the time and date provided by said indicating means will also be photographed.

2. The combination of claim **1** and wherein said indicating means includes a clock separate from a clock which forms part of said timeclock means as well as a calendar located adjacent said clock and indicating the date.

3. The combination of claim **2** and wherein said clock and calendar of said indicating means are situated at a location where they will not be obstructed by an individual operating said timeclock means so that the photograph made by said camera means will clearly show not only the individual but also the time and date.

4. The combination of claim **1** and wherein said camera means is electrically actuated and said timeclock means is electrically operable, and said actuating means being electrically into the circuit of said timeclock means to respond automatically to operation of said timeclock means for actuating said camera means.

5. The combination of claim **4** and wherein said actuating means is connected to a source of current and said timeclock means is connected electrically to said

actuating means with the latter on the one hand connecting said timeclock means to said source of current and on the other hand responding to operation of said timeclock means for actuating said camera means.

6. The combination of claim 1 and wherein said camera means is a motion picture camera for making a single-frame exposure at each actuation of said camera by said actuating means.

7. The combination of claim 1 and wherein said positioning means positions said camera means to take a side-view photograph of an individual operating said timeclock means while said indicating means is directed toward said camera to be situated in the field of view thereof.

8. The combination of claim 7 and wherein said timeclock means faces the individual so that while a side-view photograph of the individual is made by said camera means only a side of the timeclock means is photographed with said indicating means providing a time indication separate from that of said timeclock means.

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