

March 31, 1942.

J. A. MADDEN

2,278,357

IDENTIFICATION APPARATUS

Filed April 28, 1939

2 Sheets-Sheet 1

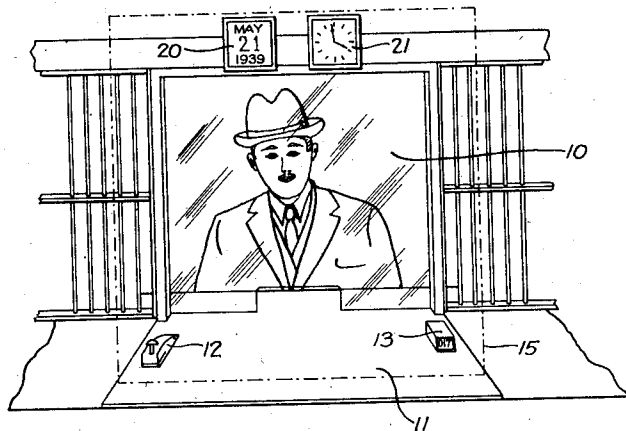


Fig. 1.

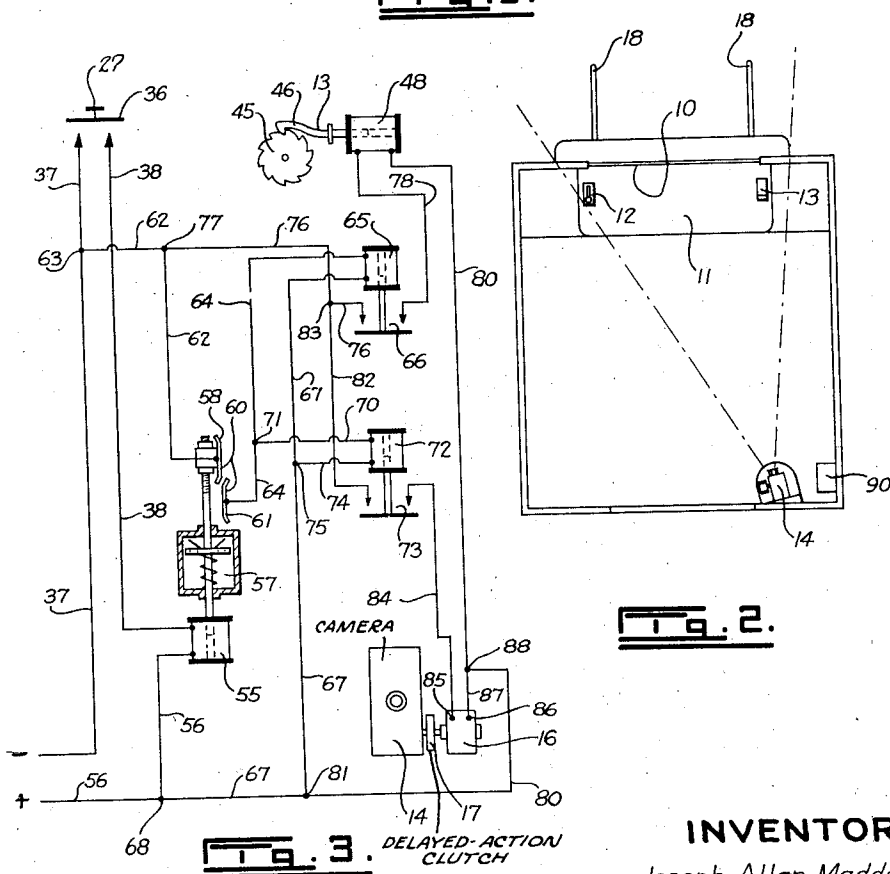


Fig. 2.

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2 Sheets-Sheet 2

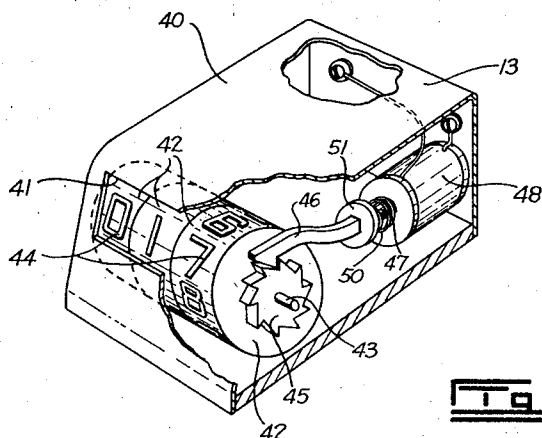


Fig. 4.

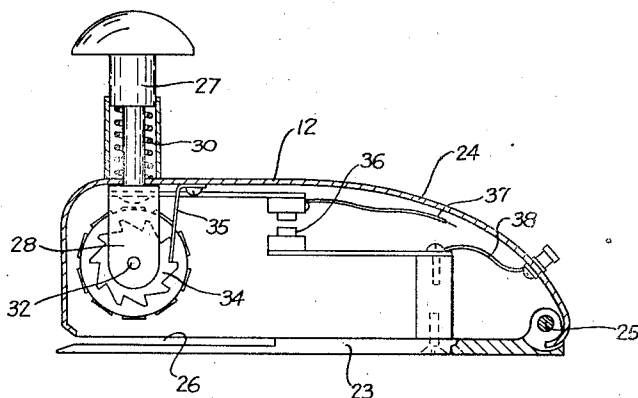


Fig. 5.

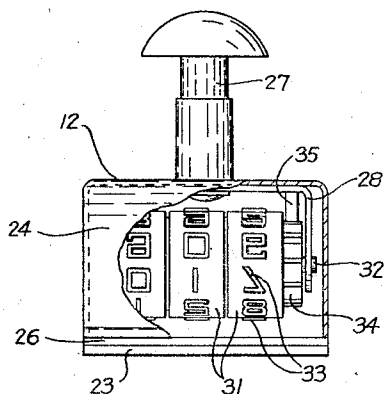


Fig. 6.

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IDENTIFICATION APPARATUS

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Application April 28, 1939, Serial No. 270,694

1 Claim. (Cl. 234—60)

This invention relates to an apparatus for identifying persons under certain desired conditions.

An object of the present invention is the provision of an identification apparatus and particularly apparatus for positively identifying persons carrying out financial transactions which may later prove to have been made in error or by the wrong persons.

Another object is the provision of an identification apparatus which may be continually used in places where large numbers of cheques are cashed without positive identification of the persons in possession of the cheques.

Another object is the provision of an identification apparatus which may be set into operation unknown to the person being identified.

A further object is the provision of an identification apparatus which is automatically set into operation as the transaction takes place.

This apparatus is particularly designed for use in places where large numbers of cheques are cashed without the certain identity of the persons in possession of the cheques. It may, however, be used in other places where it is desirable definitely to connect each person with a certain transaction or document, such as, for example, at a paymaster's wicket or in places where automobile licenses are issued. For the sake of convenience, the apparatus will be described in connection with identifying persons desiring to have cheques cashed.

Several attempts have been made to employ cameras for identifying the participants in bank robberies or the like. Apparatus of this nature is usually set into operation by a participant stepping on a floor treadle, accidentally pushing a button, or breaking a light beam. These devices could not be used for identifying persons cashing cheques as there is no way of positively connecting them with their cheques. Furthermore, every person approaching the cashier's wicket would have his picture taken whether or not they had a cheque cashed. This would be very expensive and would tend to create confusion. Cameras have been used to obtain evidence but they had to be intentionally set into motion by an operator. This would not be practical at a cashier's wicket as in busy times the cashier might forget the camera. Here again, there would be no means for definitely linking each person up with his own cheque.

Apparatus has been devised employing one or two single shot cameras for identifying persons with certain business transactions but this apparatus would not be sufficiently fool-proof to

be practical for this purpose. Each camera would take one picture of the person and if he were looking down or in the wrong direction it is quite possible that neither camera would get a picture capable of identifying the individual. A further disadvantage is that the operator of the device might be in the way, particularly if he were concentrating on the transaction and had forgotten the cameras. To be worthwhile, a device of this nature must be fool-proof.

This invention overcomes these many disadvantages by providing an apparatus including a motion-picture camera to take a plurality of pictures of each person cashing a cheque at a certain point, say for example, at a cashier's wicket, and means for marking the cheque while, at the same time, displaying the marking in a prominent position so that it is included in each picture along with the person cashing the cheque. The camera is preferably set into operation by the means for marking the cheque so that there can be no question of forgetting the camera or as to who cashed each cheque. Provision is made for ensuring the display of the marking being applied to the cheque, before the camera is set into operation. With this system, the human element does not have to be taken into consideration and, therefore, the identification is complete. Furthermore, the cheque marking means is so placed that the operator must move to one side of the field of the camera in order to mark the cheque. Suitable means may be employed for showing the date and/or the time in the pictures.

There are several ways in which this invention may be carried out, one of which is described, by way of example, in the following specification and illustrated in the accompanying drawings, in which

Figure 1 is an elevation of a cashier's wicket, showing the field, outlined in broken lines, covered by the camera,

Figure 2 is a plan view of a cashier's wicket showing the position of the various elements of the apparatus,

Figure 3 is a wiring diagram,

Figure 4 is a perspective view of the indicia indicator with one side broken away,

Figure 5 is a side view of the stamping device, with the side broken away to show the interior thereof, and

Figure 6 is an end elevation of the stamping device with a part of the casing broken away.

Referring more particularly to the drawings, 10 is a cashier's wicket and 11 a counter behind

the wicket. A stamping device 12 is situated on the counter 11 at one side of the wicket and an indicating device 13 is situated on the counter at the other side of the wicket. When a person appears at the wicket to cash a cheque, the cashier, immediately upon receipt of the cheque, inserts it in the device 12 which is operated to stamp indicia, such as for example, a number, thereon. The indicating device 13 is connected to and synchronized with the stamping device in any suitable manner so that the number stamped on the check immediately appears in the indicating device.

A camera 14 is mounted behind the wicket 10 and preferably to one side thereof. This camera is so mounted and focused that it covers the field enclosed by the broken line 15, which field includes the person involved in the transaction at the wicket and the indicating device 13. The camera is operated by an electric motor 16 which is connected thereto by a delayed-action clutch 17. The motor 16 may be set into operation in any suitable manner but it is preferable to provide the stamping device 12 with a switch that closes the motor circuit to start the camera immediately after the cheque has been stamped. With this construction, the cashier or operator must move to one side of the wicket to stamp the check and, therefore, set the camera into operation, at which time he is more or less out of the way, thus leaving the person at the wicket directly in line with the camera. Spaced-apart rails 18, see Figure 2, may be placed outside the wicket to ensure that the person stands in the proper position and that only one person at a time stands directly in front of the wicket. If desired, a calendar 20 and a clock 21 may be mounted adjacent the wicket within the field covered by the camera.

The camera 14 may be arranged to take only one picture but it is preferable to take several pictures each time it is set into operation. In this case, suitable means must be provided for starting and stopping the camera at the proper times.

Referring to Figures 5 and 6, the stamping device consists of a base 23 and a hollow casing 24, shaped as shown, pivotally mounted, at one end, as at 25, upon said base. The base is formed with a shallow recess 26 in its upper surface adjacent its forward end. A plunger 27 slidably mounted in the casing 24 over the recess 26, is provided at its lower end with a saddle 28, said plunger being normally held in its uppermost position by a spring 30. A plurality of drums 31 are mounted upon a shaft 32 carried by the saddle 28, each drum having raised indicia, such as numbers 33, on its surface. These drums are arranged so that when each drum makes one complete revolution the next preceding drum turns a distance equal to the distance between two numbers on its surface. In the case of numbers, the right hand drum (Figure 6) indicates the units, the middle drum the tens, and the left hand drum, the hundreds. A ratchet wheel 34 is mounted upon the shaft 32 and is connected to the right drum 31. A spring pawl 35 anchored on the casing 24, is adapted to engage the teeth of the ratchet wheel 34. A spring contact switch 36 is mounted in the stamping device 12 and is adapted to be closed when the plunger 27 is depressed while a wire 37 is connected to one contact of the switch and a wire 38 is connected to the other contact of said switch. When the plunger is pressed downwardly, the pawl 35

moves from one tooth to the next of the ratchet wheel 34 and when the plunger is released, the pawl causes the ratchet wheel and, consequently, the adjacent drum to rotate a distance equal to the distance between two numbers in the surface of the drum. When a cheque or other document is inserted in the recess 26, the depression of the plunger 27 causes a number to be impressed thereon and when the plunger is released, the drums 31 rotate to bring the following number into readiness for the next operation of the plunger. Suitable means (not shown) is provided for inking the numbers on the drums after each operation. Furthermore, as the plunger is depressed, the switch 36 is closed.

One form of indicating device 13 is illustrated in Figure 4. This indicator consists of a casing 40 having an opening 41 in its forward end. A plurality of drums 42 are rotatably mounted on a shaft 43 carried by the casing, said drums being similar to the drums 31 of the stamping device and having indicia 44, such as, for example numbers, similar to the indicia 33 of the stamping device. A ratchet wheel 45 is mounted on the shaft 43 and secured to the right hand drum 42, which wheel is adapted to be rotated by a pawl 46. This pawl is carried by the core 47 of a solenoid 48 and said core is normally held part way out of the solenoid by a spring 50 mounted on the core between the end of the solenoid and a disc 51 fixed to the outer end of the core. The drums 42 are so connected together that one revolution of the right hand drum causes the middle drum to rotate through a distance equal to the distance between two numbers, and one revolution of the middle drum causes the left hand drum to rotate through a distance equal to the distance between two numbers. The indicia or numbers are so arranged that one number may always be seen through the opening 41. Referring to the wiring diagram of Figure 3, the wire 37 of the switch 36 of the stamping device 12 extends and is connected to the source of electrical supply (not shown). The wire 38 extends to one end of the coil of a solenoid 55 while a wire 56 extends from the other end of said solenoid coil to the source of electrical supply.

The core of the solenoid 55 controls an oil plunger device 57 of well known construction. The plunger device has a plunger operating in a body of oil, which plunger is easily drawn downwardly through the oil when the solenoid 55 is energized and a spring slowly returns said plunger to its normal position when the solenoid is de-energized. The core of the solenoid 55 extends through and beyond the device 57 and has mounted thereon an elongated contact 58 of a sliding switch 60, which contact 58 is connected by a wire 62 to the wire 37, at 63. The other contact 61 of the switch 60 is connected by a wire 64 to one end of the coil of a solenoid 65 which, when energized, is adapted to close a switch 66. The other end of the coil of said solenoid is connected by a wire 67 to the wire 56, at 68. A wire 70 extends from the wire 64, at 71, to one end of the coil of a solenoid 72 which, when energized, is adapted to close a switch 73. A wire 74 connects the other end of said solenoid coil to the wire 67, at 75.

One contact of the switch 66 is connected by a wire 76 to the wire 62, at 77, while the other contact of said switch is connected by a wire 78 to one end of the coil of the indicator solenoid 48. The other end of the coil of said solenoid is connected by a wire 80 to the wire 67, at 81.

One contact of the switch 73 is connected by a wire 82 to the wire 76, at 83, while the other contact of said switch is connected by a wire 84 to a terminal 85 of the camera motor 16. The other terminal 86 of said motor is connected by a wire 87 to the wire 80, at 88.

The solenoid 55, oil plunger device 57, switch 60 and solenoids 65 and 72 with their respective switches 66 and 73, may be mounted in a control box 90 (see Figure 2) which may be situated at any desirable point.

The above-described apparatus functions as follows:—When the cashier stamps a cheque in the stamping device 12, the switch 36 is momentarily closed. This completes the circuit consisting of the following: wire 37, switch 36, wire 38, solenoid 55, and wire 55, the wires 37 and 56 being connected to the electrical source of supply. The solenoid 55 operates the oil plunger device 57 to close the switch 60. Although the aforementioned circuit is closed only momentarily, the switch 60 remains closed a predetermined length of time as the plunger of the oil device 57 takes a certain time to regain its normal position. It will be seen that the switch 60 is open when the plunger is in its normal position at the top of the device, but the switch is closed when the plunger is moved to the bottom of the device, and the switch remains closed as the plunger moves comparatively slowly towards the top. The construction of these oil plunger devices is well known and they may be set so that the plunger will take a certain predetermined time to reach the top of the device. In other words, the time the switch 60 remains closed, may be regulated as desired. The timing of the switch may also be regulated by adjusting the position of the contact 58 upon the extended core of the solenoid 55.

When the switch 60 is closed, the solenoids 65 and 72 are energized to close the switches 66 and 73, respectively. The circuit of the solenoid 65 consists of the wires 37 and 62, switch 60, wire 64, solenoid 65, and wires 67 and 56. The circuit of the other solenoid consists of the wires 37 and 62, switch 60, wires 64 and 70, solenoid 72, and wires 74, 67 and 56.

The switch 66 sets the indicator 13 into operation. This switch closes the following circuit: wires 37, 62 and 76, switch 66, wire 78, solenoid 48, and wires 80, 67 and 56. When the solenoid 48 is energized, its armature causes the pawl 46 to rotate the ratchet wheel 45 sufficiently to change the number showing through the opening 41 of the indicator. The solenoid will remain energized until the switch 60 is opened but this will not affect the indicator.

At the same time, the switch 73 sets the motor 16 into operation which, when it reaches the necessary speed, sets the camera 14 into action through the delayed-action clutch 17. By using a clutch of this nature, the camera 14 does not start until the number in the indicator 13 has been changed. The camera continues in operation until the switch 60 is opened. As soon as said switch is opened, the motor 16 loses speed and the clutch 17 disengages the camera. The switch 73 closes the following circuit: wires 37, 62, 76, and 82, switch 73, wire 84, motor 16, and wires 87, 80, 67 and 56.

The general operation of the identification apparatus is as follows:

When a number is stamped on the cheque in the stamping device 12, the switch 60 is closed and the indicating device 13 is operated to expose through the opening 41 the number stamped on the cheque, as the drums of the stamping and indicating devices are synchronized. At the same time, the motor 16 is set into operation, which, in turn, sets the camera 14 into motion. The slight delay caused by the delayed-action clutch results in the number having been changed in the indicating device 13 before the camera is brought into action. The camera covering the field bounded by the broken line 15, takes one or more pictures of the person standing at the wicket and the indicating device with the number that has been stamped on the cheque. As stated before, the date and the time may appear in the field covered by the camera. Suitable lighting means may be provided so that the pictures will be sufficiently clear for identification purposes. The number of pictures taken by the camera would be controlled by the length of time the switch 60 remained closed each time a cheque was stamped. By placing the stamping device to one side of the wicket, the cashier must move to the side in order to stamp the cheque and, therefore, he cannot hide the person at the wicket. This operation is automatic and it may take place without being known to the person at the wicket, as stamping cashed cheques is a normal procedure.

From the above, it will readily be seen that an apparatus has been provided for positively identifying each person involved in a particular transaction relating to a document and definitely connecting them to the transaction, which apparatus is comparatively simple and is automatically set into operation as the transaction progresses.

Various modifications may be made in this invention without departing from the spirit thereof or the scope of the claim, and therefore the exact forms shown are to be taken as illustrative only and not in a limiting sense, and it is desired that only such limitations shall be placed thereon as are set forth in the accompanying claim.

What I claim as my invention is:

50 An apparatus for identifying a person carrying out a particular transaction involving a document, such as a cheque, and definitely connecting the person with the transaction, comprising, in combination, a motion-picture camera focused to cover a field in which the person involved in the transaction must stand, a motor connected to the camera by a delayed-action clutch, a stamping device at one side of the field for stamping certain indicia on each document, an indicator 55 situated in said field electrically connected to and synchronized with the stamping device for indicating the indicia stamped on the document immediately after such action takes place, and a switch operated by the stamping device for setting the motor into operation, said camera being slightly delayed in starting by the clutch, whereby the camera commences operation after the indicia stamped on the document appears in the indicator.

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