United States Patent [19]

Roth

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[54] **APPARATUS FOR AND METHOD OF REGISTERING FIREARM SERIAL NUMBERS**

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[52] **U.S. Cl.** **340/172.5**, 178/6.8, 444/1

[51] **Int. Cl.** **G06f 3/00**, H04n 1/00

[58] **Field of Search** 340/172.5; 444/1; 178/6.8

[56] **References Cited**

UNITED STATES PATENTS

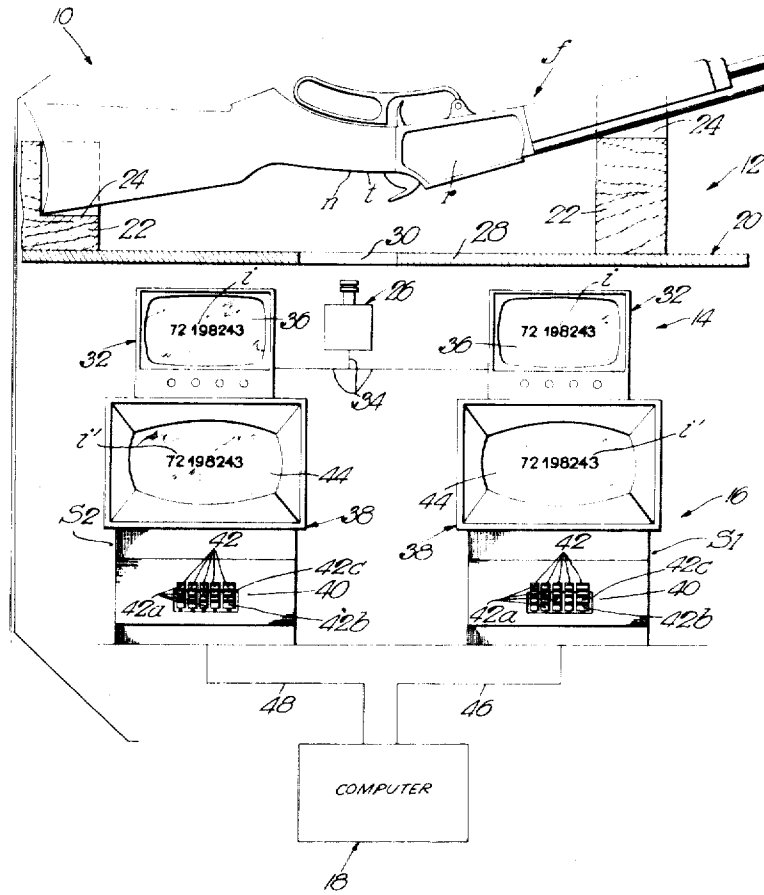
3,453,384	1/1969	Donner et al.	178/6.8
3,584,142	6/1971	Schoeffler	178/6.8
3,590,151	6/1971	Keith	178/6.8

Primary Examiner—Raulfe B. Zache
Attorney—Walter Spruegel

[57] **ABSTRACT**

In an installation for registering the serial numbers of firearms in a computer, a plurality of stations, each having a television receiver displaying the image of the serial number of a firearm being registered, and a unit operatively associated with the computer and providing a keyboard and a display screen next to the television receiver, with an operator assigned to each station, and each operator instructed first to produce, by selective manipulation of keys of the keyboard, a duplicate of the televised serial number for appearance of an image of the operator-produced number on the display screen, then visually to compare the number images for their identity or non-identity, and finally to cause entry in the computer of the operator-produced serial number if found by the operator to be identical with the televised serial number. The computer is programmed for various processing of the entered serial numbers, including a test of the latter for their identity or non-identity, and their clearance for further processing toward registration and storage if found identical, but cancellation of the entered serial numbers if found non-identical and signalling of the non-identity of the entered serial numbers to the operators. Further processing of a cleared serial number includes a test of the same for possible duplicity with a previously registered and stored serial number, and registration and storage of the cleared serial number if not a duplicate, but cancelation of the cleared serial number if a duplicate, and signalling the duplicity of the serial number to the operators.

3 Claims, 3 Drawing Figures

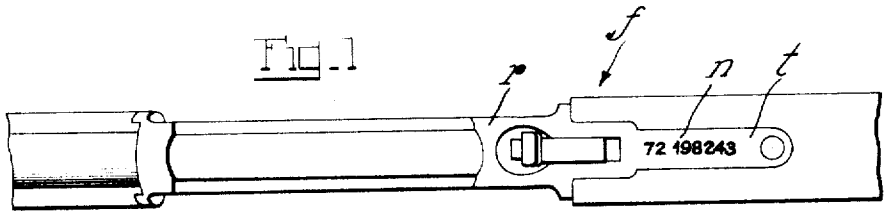


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SHEET 1 OF 2

Fig. 1



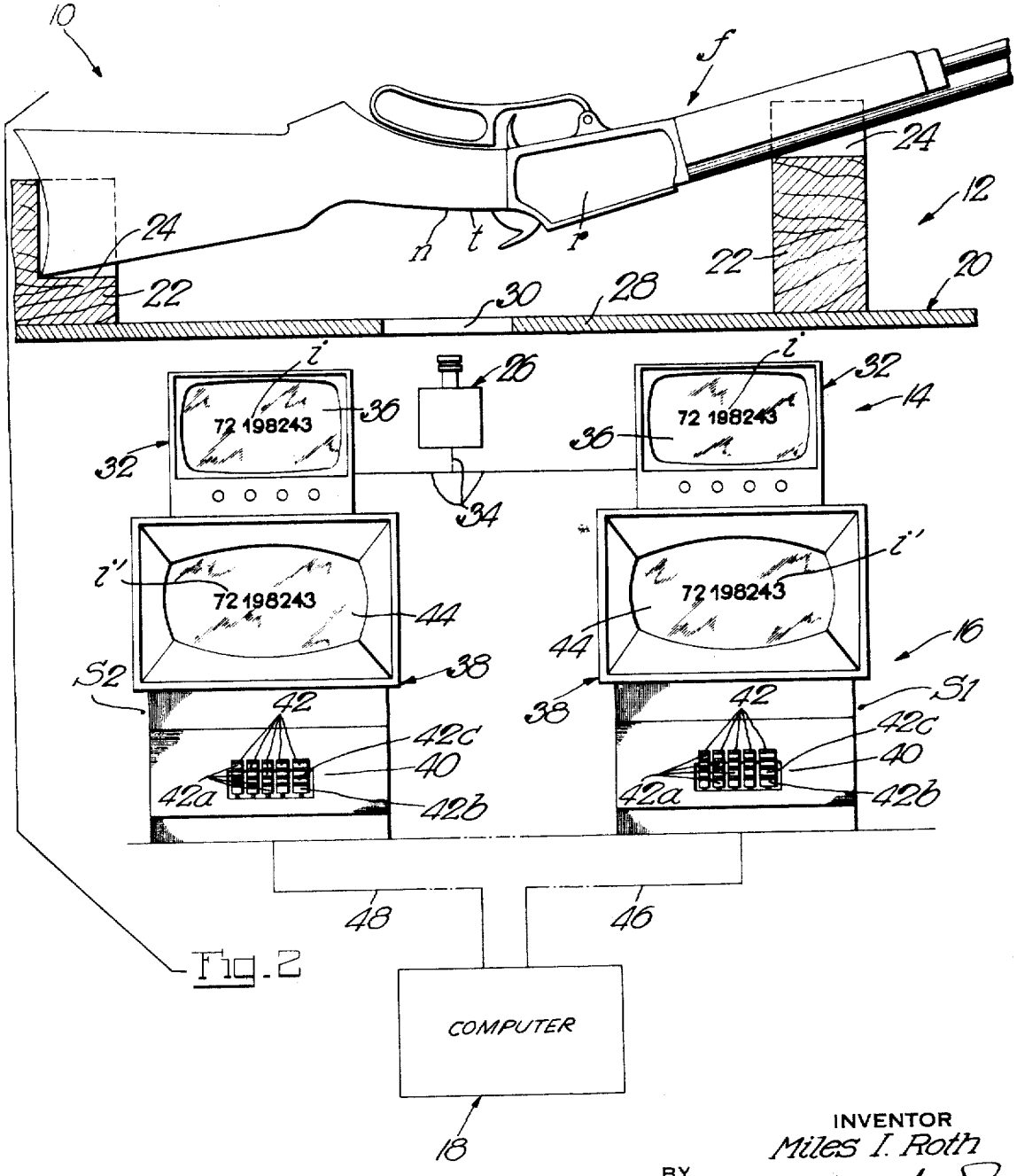


Fig. 2

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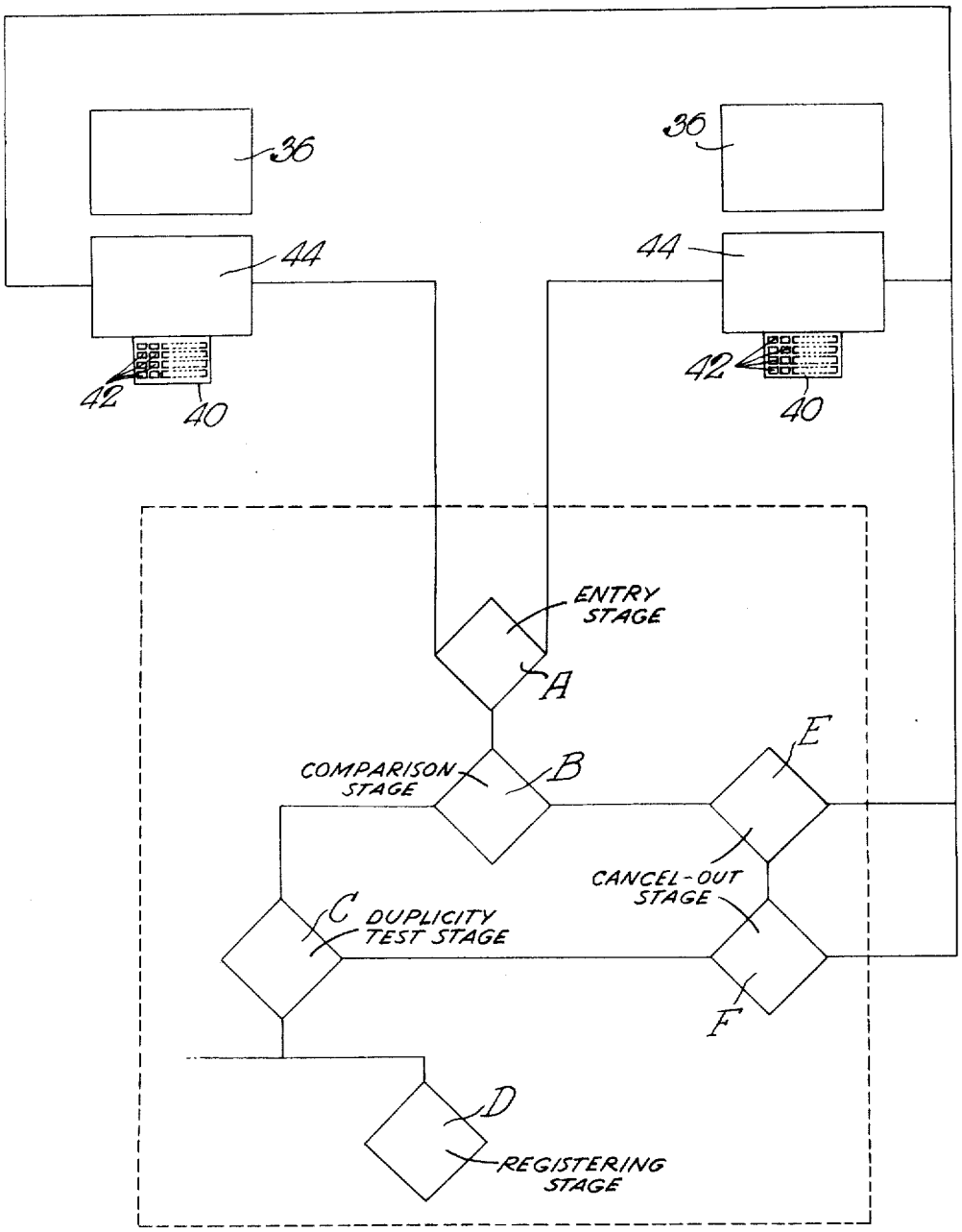


Fig. 3

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APPARATUS FOR AND METHOD OF REGISTERING FIREARM SERIAL NUMBERS

This invention relates to the registration of firearms in general, and to a method of and apparatus for registering firearms at the manufacturing source in particular.

Federal regulations compel firearm manufacturers to mark all firearms with permanent individual identification indicia, usually in the form of serial numbers, and to keep permanent records not only of these serial numbers but at least also of the parties, usually wholesalers, to whom the respective firearms are shipped. Such records are required for various purposes, including the tracing of the purchaser of any particular firearm from available records starting with those of the manufacturer. Various systems are used by different firearm manufacturers to make such records and have them available at all times. While these various systems are generally satisfactory for the intended purposes, they all involve the human element in setting up and maintaining the required records, and for that reason alone give rise to occasional errors. In this connection, a human error in correctly entering the serial number on any firearm into the system is particularly serious, because once the error is committed there is no record at all of the particular firearm at the manufacturing source. Also, these various systems make it exceedingly difficult, if not practically impossible, to check whether a serial number being entered into the system might be a duplicate of a previously entered serial number.

It is among the objects of the present invention to register for entry into a record system the serial numbers of firearms one at a time by an operator who is called upon to actuate the keys on a keyboard in order to duplicate the serial number of a firearm, with the operator having within ready view for comparison at a glance enlarged images next to each other of the actual serial number being registered of a firearm and of the serial number produced by the operator's key operations. With this arrangement, registration of an actual serial number on a firearm is not only the operator's control, but is advantageously also reserved for the operator's inspection which for utmost accuracy requires no more than easy and correct visual comparison of the enlarged images of the respective serial numbers.

It is another object of the present invention to register the aforementioned operator-reproduced serial numbers of firearms in a computer in which the registered serial numbers are also stored and available for many purposes. Thus, the present system avails itself of the versatile and errorless performances of a computer that may properly be programmed for many desired performances, such as, besides entering and storing the reproduced serial numbers, also operating and controlling associated apparatus for making typed records of certain data of registered firearms, affording instantaneous information of other vital data concerning any registered firearm, checking any serial number being registered for possible duplicity with a previously registered serial number and immediately indicating to the operator the detected duplicity of any serial number being registered with a previously registered serial number, for example.

It is a further object of the present invention to register the operator-reproduced serial numbers of firearms in a computer as aforementioned, and to provide for

the operator's share of the procedure, on the one hand a television system of a camera and preferably thereto wired receiver, of which the camera is focussed on the applied serial number, usually on the receiver of a firearm which is quickly and removably placed, preferably by the operator, in proper location on a nearby suitable support, while the receiver displays the aforementioned enlarged image of the photographed serial number, and on the other hand a registering unit which is operatively associated with the computer for various different operations under computer control, and includes the aforementioned keyboard and a display screen preferably next to the television receiver and on which appears the aforementioned enlarged image of the number reproduced by the operator's manipulation of the requisite keys on the key board. Thus, the registering unit may operate to show on the display screen the enlarged image of a serial number as it is being reproduced by the operator's key manipulations, and the keyboard has, besides number keys, other keys among which are preferably an "enter" key which on manipulation by the operator will cause entry of the reproduced serial number in the computer for various processing, including registration of a non-duplicate number and non-registration of a duplicate number, and an "erase" key which on manipulation by the operator will cause erasure of the image of the reproduced serial number on the display screen and thus prevent its entry in the computer if the operator finds on compulsory comparison of the displayed number images that the reproduced number deviates from the actual serial number.

Another object of the present invention is to register the operator-reproduced serial numbers of firearms in a computer as aforementioned, but to involve several, for example two, operators in the task of registering firearm serial numbers in the computer, with all operators going through the aforementioned procedure simultaneously but independently of each other, except that one operator will place a firearm to-be-registered on the designated support with its serial number in focus with the single camera that serves all television receivers, one for each operator. This permits highly advantageous programming of the computer to compare the numbers reproduced, inspected and entered by the individual operators, and to register the number if the several entered numbers are identical, but to omit registration if any entered number deviates from any other entered number and to signal the discrepancy to the operators' attention, as by a suitable message on each operator's display screen, for example. In this fashion, the computer will even serve to check the accuracy of performance of the operators, and will guarantee the registration of only correct firearm serial numbers regardless of any and all human errors that could conceivably be committed in dealing with any serial number, save only the extremely unlikely registration of a number which is not a duplicate of a previously registered serial number and is identical with all reproduced numbers that carry the same identical error.

Further objects and advantages will appear to those skilled in the art from the following, considered in conjunction with the accompanying drawings.

In the accompanying drawings, in which certain modes of carrying out the present invention are shown for illustrative purposes:

FIG. 1 is a fragmentary view of a firearm bearing a serial number;

FIG. 2 is a view, partly diagrammatic, of a featured installation for registering the serial numbers of firearms in accordance with an also featured method; and

FIG. 3 is a flow chart of programmed performances of a computer part of the installation.

Referring to the drawings, and more particularly to FIG. 2 thereof, there is shown an installation **10** for processing, including registering for permanent recording, the identifying markings of firearms. These markings are customarily serial numbers *n* which differ from firearm to firearm and which are usually stamped in the metal receivers of firearms. Thus, in the exemplary firearm *f* in FIG. **1**, the serial number *n* is stamped in a rear tang *t* of the metal receiver *r*. In this instance, the leading part "72" of the serial number represents the exemplary year 1972 in which the firearm is registered by the manufacturer, while the remainder of the serial number distinguishes this particular firearm from all other firearms registered in the same year by the same manufacturer.

The installation **10** provides a firearm support **12**, a television system **14**, a serial number transfer system **16**, and a computer **18**.

The firearm support **12** provides in this instance a bench **20** or the like with upright blocks **22** having recesses **24** in which is removably received a firearm *f* that is to be registered. In thus placing the firearm in the recesses **24**, the firearm is accurately located with its serial number *n* on the tang *t* of the receiver *r* in photographing relation with a fixed camera **26**. In this example, the camera **26** is beneath the top **28** of the bench **20**, with the top **28** having an opening **30** through which to expose the firearm serial number *n* to the camera **26**.

The television system **14** provides in this instance a plurality of television receivers **32**, presently two, and a television camera which is the camera **26**. The camera **26** is advantageously wired to the receivers **32** as at **34**. The preferred arrangement is such that a televised, and preferably enlarged, image *i* of the actual serial number *n* of a firearm will appear on the screen **36** of each receiver **32** as long as the firearm is properly located on the support **12**, and these images *i* will disappear when the firearm is removed from the support **12**.

The serial number transfer system **16** provides in this instance a plurality of units **38**, presently two, each of which has a keyboard **40** with keys **42**, and a display screen **44**. The units **38** are located at designated stations S1 and S2 at which assigned operators independently attend to the respective units **38**. These units **38** are operatively associated with a computer **18** and are wired with the latter as at **46** and **48**. The keys **42** of each keyboard **40** provide marked character keys **42***a*, in this instance number keys from **0** to **9**, and special keys, including in this instance an "enter" key **42***b* and an "erase" key **42***c*. The television receivers **32** are associated with the respective units **38** to the end of having each display screen **44** and associated television screen **36** within ready view of the operator at the respective station S1 or S2. The firearm support **12**, while preferably remote from thestations S1 and S2, is preferably sufficiently close to one of these stations, for example station S2, to be readily attended to at little expenditure of time by the operator assigned to station S2.

The computer **18** may be of any known available type which can be programmed for various desired performances, including certain hereinafter described operations of the units **38**, and the units **38** are also of known available type.

Assuming that the computer **18** is properly programmed for the various desired performances, the installation **10** is used for registerig the serial numbers of firearms in the computer wherein these serial numbers are processed as programmed, including their storage and for the production of available records of vital data pertaining to the respective serial numbers, such as the identity of the party to which easy registered firearm is shipped from the manufacturer. The thus recorded data pertaining to any registered serial number are the actual and accurate data on a firearm the serial number of which corresponds exactly to the registered serial number. Accordingly, it is of the greatest importance that the actual serial number on a firearm is transferred to the computer for registration without any possible error, and the present installation serves that purpose despite unavoidable involvement of the human element.

Thus, in use of the installation, the appointed operator will quickly place a firearm to-be-registered on the support **12**, with the result that the enlarged images *i* of the actual serial number *n* will appear on the television screens **36** and thereby indicate to the observing operators that the television system is properly operating and that the firearm is properly located on the support **12**. Each operator is then called upon to reproduce, independently of the other operator, the number of the televised image *i* before him, by selectively manipulating the number keys **42***a* of his unit **38**, with the unit **38** operating to display on the associated display screen **44** an image *i'* of the number produced by the operator's key manipulations. Each operator is then called upon visually to compare the rather closely adjacent number images *i* and *i'* before him at his assigned station, and to manipulate the "enter" key **42***b* on the keyboard **40** if he finds the compared numbers to be identical, and to manipulate the "erase" key **42***c* if he finds an error in his key-produced number. Manipulation by the operator of the "enter" key **42***b* will bring about entry of his key-produced number in the computer, while manipulation by the operator of the "erase" key **42***c* will bring about erasure of the number image *i'* on his display screen **44**. In the latter case, the same operator will again undertake to duplicate, by key manipulations, the number of the televised image *i* on the respective television screen, and again compare the image *i'* of his produced number on the display screen **44** with the associated televised number image *i*. Having been confronted with his own error in the first place, the operator will on second try be particularly careful to correctly duplicate the televised number image *i*, so that on comparison of the image *i'* of his second produced number with the televised number image *i* he will almost certainly find the numbers identical and thereupon manipulate the enter key **42***b* to cause entry of his second produced number in the computer.

The computer **18** in this instance is programmed to start processing any entered serial number only when each operator's independent serial number has been entered. Therefore, if one operator enters his serial number before the other operator enters his serial num-

ber, the computer will suspend processing until both serial numbers are entered.

In this instance also, the computer is programmed to first process the respective entered serial numbers by subjecting them to a comparison test as to their identity or non-identity. If this comparison test by the computer should establish non-identity of the entered serial numbers, the computer will, according to program, operate to cause erasure of the number images *i'* on both display screens **44**, and also signal the non-identity of the entered serial numbers to authorized personnel, preferably by producing on the display screens **44** a visual message, such as "Wrong Number," for example, for the attention of the operators as the authorized personnel. However, if this comparison test establishes identity of the entered serial numbers, the computer clears the particular serial number for subjection to another "duplicity" test for which the computer is also programmed, with this test being a check of the cleared serial number for possible duplicity with any previously registered and stored serial number in the computer. If this further test establishes that the cleared serial number is not a duplicate of any previously registered and stored serial number, the computer will register and store the cleared serial number. However, if this test should establish that the cleared serial number is indeed a duplicate of a previously registered and stored serial number, the computer will cancel out the cleared serial number and operate to cause erasure of the number images *i'* on the display screens **44**, and will also signal the duplicity of the entered serial numbers to authorized personnel, preferably by producing on the display screens **44** a visual message, such as "Duplicate Number," for example, for the attention of the operators as the authorized personnel and for calling on the operators to set aside the particular firearm for a change of its serial number.

Once the computer registers and stores a serial number, the latter is further processed in accordance with the particular programming of the computer, involving, for example, operation and control of associated available apparatus (not shown) for making typed records of certain data of registered firearms, with the computer also affording instantaneous information of vital data concerning any registered firearm.

Processing by the computer of any entered serial numbers, first for their identity or non-identity, then for possible duplicity of a cleared serial number with any previously registered and stored serial number, and finally registration of a non-duplicate serial number, is virtually instantaneous, and the computer may be programmed to cause erasure of the serial number images *i'* on the display screens **44** the moment the corresponding serial number is registered. Erasure of the serial number images *i'* on the display screens without any substitute message thereon will indicate to the operators that the particular serial number is registered, so that the firearm on the support **12** may now be replaced with another firearm which is to-be-registered in following the same described procedure.

Reference is now had to FIG. **3** which shows a flow chart of the programmed performances of the computer insofar as they have been described. The computer components for the various programmed performances are simply represented by stages A to F within the dotted-line encirclement. Thus, the operator-produced serial numbers are entered at stage A. When both of these serial numbers are entered, stage B will be activated to compare the entered serial numbers for their identity or non-identity. If they are found to be identical, the corresponding serial number is cleared for the duplicity test and stage C will be activated to compare the cleared serial number for possible duplicity with any previously registered and stored serial number. On the other hand, if comparison of the entered serial numbers establishes their non-identity, stage E will be activated to cancel out the cleared serial number, erase the images of the operator-produced serial numbers on the display screens **44**, and produce on each of the latter the visible exemplary message "Wrong Number." If the duplicity test at stage C of the cleared serial number establishes that the latter is not a duplicate of a previously registered and stored serial number, stage D is activated to register and store the cleared number and to erase the images of the operator-produced serial numbers on the display screens **44**. However, if this duplicity test should establish that the cleared serial number is a duplicate of a previously registered and stored serial number, stage F will be activated to cancel out the cleared serial number, erase the images of the operator-produced serial numbers on the display screens **44** and produce on each of the latter the visible exemplary message "Duplicate Number."

While the involvement of a plurality of operators in the transfer of a serial number of a firearm to the computer secures several important advantages, including permissible programming of the computer for the described identity or non-identity test of the entered serial numbers and cancelation of non-identical entered serial numbers, as well as signalling the non-identity of the entered serial numbers to authorized personnel, it is also within the purview of the present invention to involve in the transfer of a serial number of a firearm to the computer only a single operator. In that case, there would, of course, be no object in programming the computer for the previously described serial number identity or non-identity test, wherefore any serial number entered in the computer under the operator's control would be subjected to the duplicity test, and would be registered and stored if the duplicity test established that the entered serial number is not a duplicate of any previously registered and stored serial number. Insofar as the transfer of the correct serial number on a firearm to the computer is concerned, reliance would in that case be on the visual comparison by the operator of the image of his key-produced serial number on the display screen with the televised image of the actual serial number of a firearm on the support **12**.

What is claimed is:

1. Method of registering in a computer firearm-identifying markings of different character combinations for different firearms, which provides displaying for observation by an operator at a designated station an image of the actual marking on a firearm, selectively manipulating by the operator at said station keys of a keyboard for intended duplication of the displayed marking, displaying within view of the operator at said station the marking produced by key manipulation for prescribed visual comparison by the operator of both displayed markings for their identity or non-identity and under the operator's control entering the duplicated marking in the computer for registration.

2. Method of registering in a computer firearm-identifying markings of different character combina-

tions for different firearms, which provides displaying for observation by each of a plurality of operators an image of the actual marking on one and the same firearm, selectively manipulating by each of the operators keys of a keyboard for prescribed duplication by each operator of the displayed marking, displaying for observation by each operator the marking duplicated by the latter for prescribed comparison by the particular operator of both displayed markings for their identity or non-identity, and under the control of each operator entering the latter's duplicated marking in the computer.

3. An installation for registering firearm-identifying markings of different character combinations for different firearms, comprising a television system of a single camera and a plurality of receivers; a support for removable placement thereon of a firearm with its marking in photographing relation with said camera for display of the marking's image on each receiver, with said receivers being at different stations associated with different operators; a computer; and identical devices at said stations, respectively, and operatively connected with said computer, with each device providing a board with character and other keys of which the character keys are selectively manipulatable by an associated operator for prescribed duplication of the televised marking image within view of the associated operator, and a screen which displays to the view of the associated operator the key-produced marking, with one of said other keys being manipulatable by the associated operator to enter the key-produced marking in the computer for programmed processing.

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