United States Patent

McDermott et al.

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[45] **May 9, 1972**

[54] IDENTIFICATION SYSTEM

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[21] Appl. No.: **875,141**

[52] **U.S. Cl.** ..... **40/21 C, 225/75**

[51] **Int. Cl.** **G09f 3/14**

[58] **Field of Search** ..... 40/1.5, 21 C, 21; 225/78, 75

[56] **References Cited**

UNITED STATES PATENTS

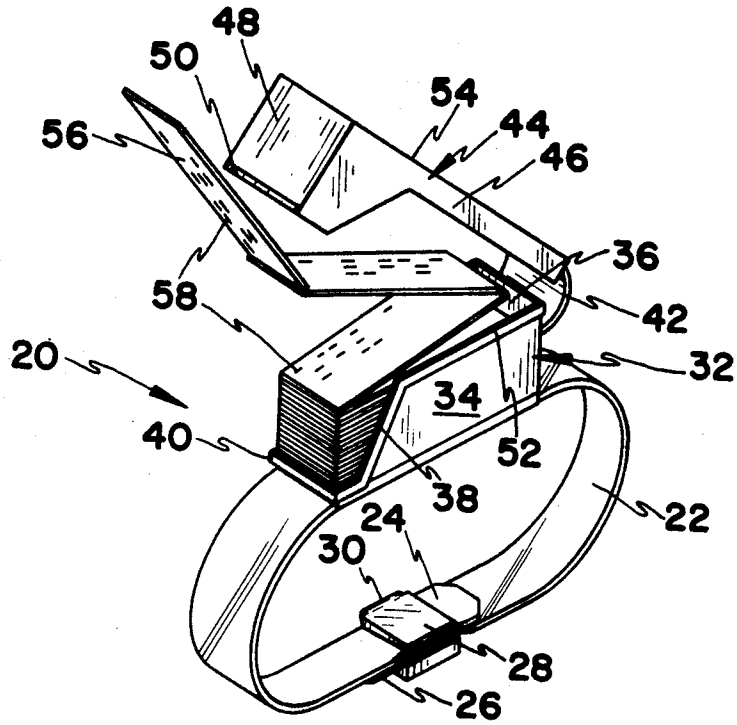
2,455,007	11/1948	Hayslip	40/19.5
2,963,208	12/1960	Gates et al.	225/78
3,059,359	10/1962	Goldammer et al.	40/21 C
3,125,264	3/1964	English	225/78
3,153,869	10/1964	Twentier	40/21 C
3,500,568	3/1970	Hushek	40/1.5

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Assistant Examiner—Wenceslao J. Contreras
Attorney—Lynn G. Foster

[57] **ABSTRACT**

An identification band has a receptacle for receiving a series of detached or detachably joined labels and dispensing structure for dispensing the labels one at a time. The method includes providing a plurality of labels with indicia including coded identification and placing the labels in an identification band. When the band is attached to a patient and object or the like, the labels may be serially detached and/or removed from the band, and affixed to a secondary object to identify the object as relating to the patient.

4 Claims, 5 Drawing Figures



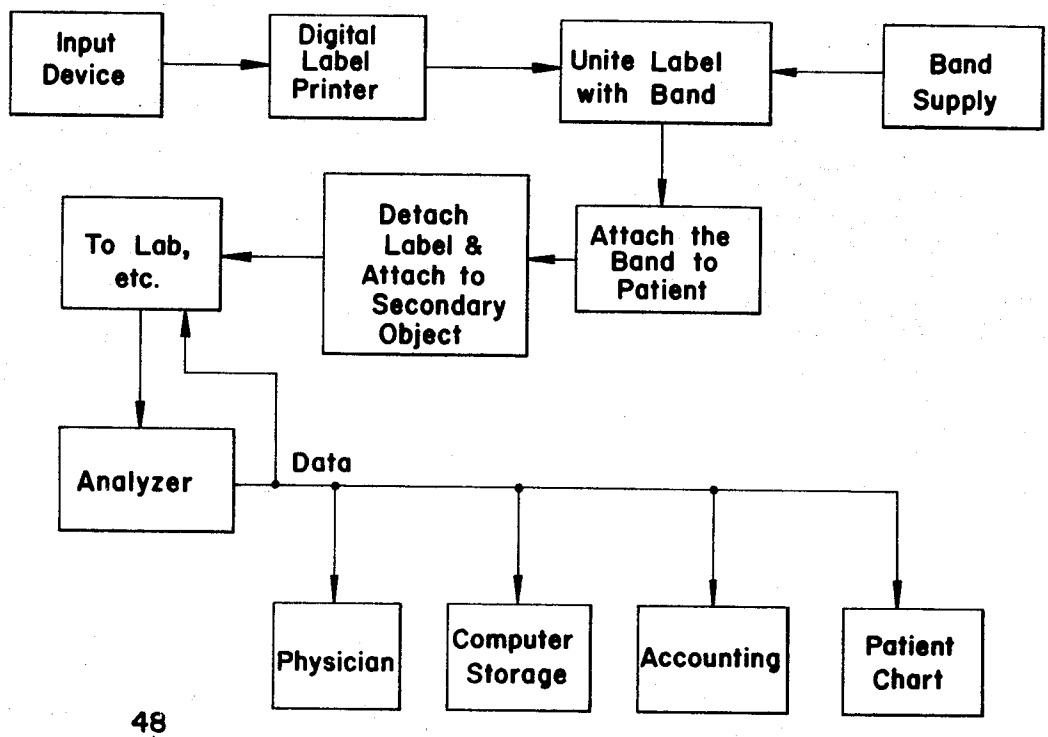


FIG. 1

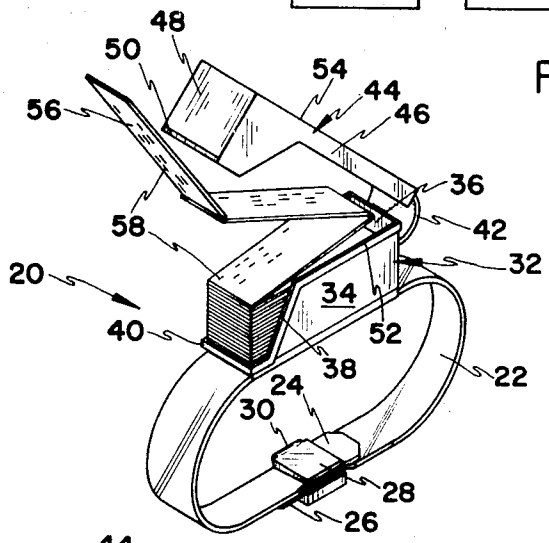


FIG. 2

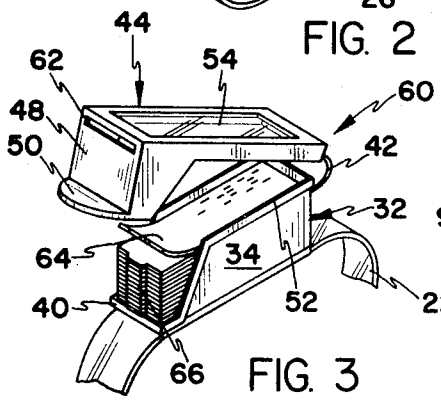


FIG. 3

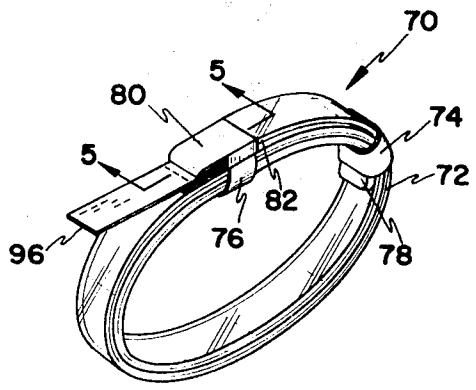


FIG. 4

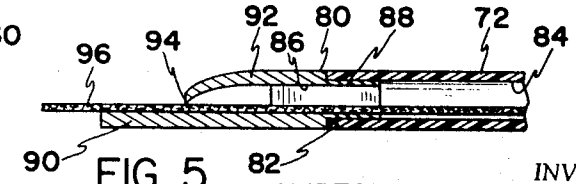


FIG. 5

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IDENTIFICATION SYSTEM

BACKGROUND

1. Field of the Invention

The present invention relates to identification systems and more particularly to method and apparatus for cross-identifying an object, such as a hospital patient and a secondary object, such as a tube containing a specimen from the patient.

2. The Prior Art

It is well known in hospital procedures that much care is required to supervise the critically important identification of specimens and samples taken from patients for such purposes as laboratory analysis and the like. Also, it is critically important to insure that the proper identification remains on all reports resulting from clinical determinations conducted upon the specimens and samples. No less important is the need for identification of prescribing and administering medication to patients.

For example, frequently a physician will prescribe one or more clinical tests to be run or conducted upon a blood sample. To effectuate the prescription, the physician will hand write the order on a request slip which will be delivered to a laboratory. Thereafter, a blood sample is collected from the patient for whom the physician ordered the laboratory tests and the name of the person is handwritten upon the collection tube. Later, when the blood collection tube is returned to the laboratory and the blood sample analyzed, the patient's name, hospital number and the like and the results of the analysis must be copied onto a report form.

The described recording and reporting procedures are extremely time-consuming and substantial risk exists that blood samples, the results of the tests and the names of patients may be inadvertently co-mingled resulting in improper treatment or lack of treatment to some patients, with the attending risk of injury and loss of life.

BRIEF SUMMARY AND OBJECTS OF THE INVENTION

The present invention provides methods of attaching a plurality of uniquely identified labels or the like to a patient so that one or more labels may be detached from the patient and affixed to a secondary object, such as a blood collection container, laboratory report, prescription order or the like. A novel label-carrying band is secured to a patient and dispenses labels serially to the exterior of the band to accommodate selective detachment of one or more labels.

It is a primary object of the present invention to provide a novel identification system, including apparatus and method.

It is another paramount object of the present invention to provide a unique identification band.

Another and no less important object of the present invention includes a novel method of providing labels identifying an object or the like.

These and other objects and features of the present invention will become more fully apparent from the following description and appended claims taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic flow diagram illustrating one presently preferred method of the invention;

FIG. 2 is a perspective view of a presently preferred identification band embodiment of the invention;

FIG. 3 is a fragmentary perspective view of another presently preferred identification band embodiment;

FIG. 4 is a perspective view of still another presently preferred identification band embodiment; and

FIG. 5 is a transverse cross section taken along line 5—5 of FIG. 4.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The presently preferred invention can best be understood by reference to the Figures, like parts being designated with like numerals throughout.

THE EMBODIMENT OF FIG. 2

With reference to FIG. 2, an identification band generally designated **20** comprises a strip **22** which may be transparent and formed of flexible plastic material, though colors ranging to opaque and other materials could be used. The band **22** has ends **24** and **26** which, in the initial condition, are separated but which are adapted to be lapped as illustrated in FIG. 2 and secured in the lapped condition by a clamp **28**. The clamp **28** is preferably formed of stainless steel, as is conventional, and is hinged at one edge **30** and is provided with a locking mechanism (not shown) causing the clamp **28** to grip the ends **24** and **26** in jaw-like fashion.

The strip **22** is adapted to be placed around the wrist or ankle of a patient, for example, who has been admitted to a hospital. Clearly, if desired, the strip **22** may be attached to any part of the patient which resists inadvertent removal and loss of the band **20**. The ends **24** and **26** of the strip **22** are secured by the clamp **28** so that strip **22** assumes an endless configuration and cannot be removed from the body of the patient without destruction of the strip **22**.

A receptacle generally designated **32** is permanently secured to the strip **22** opposite the lapped ends **24** and **26**. Preferably, the receptacle **32** has spaced opposed sides **34** and a back **36**. The receptacle **32** is open at the top and each side **34** terminates in an angularly disposed edge **38** disposed noticeably rearward of the leading edge **40** of the receptacle **32**.

The back is integral with a hinge **42**, preferably formed of resiliently yieldable metal or plastic material with memory. The hinge **42** is integral with a receptacle cover **44**, the cover **44** having sides **46** which complement the configuration of the receptacle **32**. The leading end **48** of the cover **44** is adapted to close the open leading end of the receptacle **32**, the leading end **48** being provided with an arcuately shaped forwardly projecting tab **50** which may be lifted by the fingers to displace the cover from the closed to the illustrated open position.

The peripheral edge of the receptacle **32** is provided with a snap ridge **52** and the interior of the cover **44** has a mating configuration so that when the cover **44** is displaced downwardly against the bias of the hinge **42**, the snap ridge **52** will couple with the cover **44** to releasibly hold the cover **44** in closed position. Also, if desired, the top surface **54** of the cover **44** may be provided with a transparent window, formed of plastic, glass or the like which allows for visual observation of the interior of the receptacle **32**.

Preferably, the receptacle **32** is filled with identification labels or tickets **56** which are serially detachably connected in end-to-end fashion and are folded into an accordian-like configuration. The labels **56** are provided with indicia **58** which, if desired, may be coded information uniquely identifying a single patient. Alternatively, the identification may take the form of letters and/or numbers which are visually readable by the human eye. In either event, it may be desirable to be able to read or otherwise observe the indicia on the labels **56** carried within the receptacle **32**. Where it is desired to remove only one label at a time from the receptacle **32**, it may therefor be desirable to mark or otherwise place indicia on alternating sides of the label so that the indicia always face upwardly toward the transparent top **54** of the cover **44**.

When it is desired to remove one or more labels from the receptacle **32**, the cover **44** may be lifted by prying the cover upwardly at the tab **50**. When the cover is in the open position illustrated in FIG. 2, the labels **56** are exposed and may be selectively removed one or more at a time. It is presently preferred that the label **56** be provided with an adhesive covered surface or a gummed surface over which a removable

backing strip (not shown) is disposed. Thus, when it is desired to affix the label **56** to a test tube or written report or other secondary object, the backing strip may be peeled off to allow the label to expose the adhesive so that the label can be affixed to the secondary object. Clearly if desired, adhesive which requires moistening or other conventional affixing means could be used.

THE EMBODIMENT OF FIG. 3

Referring now to FIG. **3**, the identification band **60** is substantially identical to the identification band **20** with the exception that the end **48** of the cover **44** is provided with a transverse slot **62** disposed essentially parallel to the top surface **54** of the cover **44**. Slot **62** serves as a dispensing way for labels **64** carried within the receptacle **32**. Labels **64** may be substantially identical to labels **56** except that each label **64** has an appendage **66** which extends slightly beyond the leading edge **40** and constantly feeds the corresponding label **64** into the slot **62**. Each appendage **66** may, if desired, comprise a tab for separating backing from the gummed or adhesive material on the reverse side of the label.

THE EMBODIMENT OF FIGS. 4 AND 5

Referring particularly to FIG. **4**, the identification band generally designated **70** comprises an elongated strip **72** which is preferably looped upon itself more than twice. The strip **72** is maintained in the looped position by adhesive flaps **74** and **76**, flaps **74** being integral with the trailing end **78** of the strip **72** and the flaps **76** being integral with a dispensing guide **80** mounted upon the leading end **82** of the strip **72**.

As best shown in FIG. **5**, the strip **72** has an interior passageway **84** which extends throughout the length of the strip **72** and terminates just short of a trailing end **78**. The passageway **84** opens into an interior channel **86** in the dispensing guide **80**.

The dispensing guide **80** has a reduced trailing end **88** which is inserted into the leading end **82** of strip **72**. It is presently preferred that the dispensing guide **80** be permanently attached to the strip **72** such as by adhesive or other suitable bonding agent.

An elongated lower jaw **90** forms part of the dispensing guide **80** and an opposed upper jaw **92** is superimposed over and spaced somewhat above the lower jaw **90**. As illustrated in FIG. **5**, jaw **92** has a tapered downwardly directed edge **94** which engages labels **96** as they are dispensed between jaws **90** and **92** and prevents undesirable retraction of labels **96** into the strip **72** as will be subsequently more fully described.

A plurality of labels **96** are attached end-to-end and disposed serially in the passageway **84** of the elongated strip **72**. Preferably, the labels are sized so that they are easily displaceably in the passageway **84**. Labels **96** are detachably connected one to another and can be easily drawn through the dispensing guide **80** to the exterior of the strip **72**. It is preferred that the leading label in the series rest upon essentially the full length of the lower jaw **90** so as to be exposed beyond the edge **94** of the jaw **90**. Thus, labels **96** may be removed from the strip **72** by grasping the exposed label and exerting a lateral withdrawing force upon the series. When the desired number of labels **96** have been removed from the strip **72**, the label or labels may be detached one from another so that the label remaining in the guide **80** is exposed beyond the edge **94** of jaw **90** as above described. The detached labels are then affixed to a secondary object such as a blood collection tube, medical report or the like. As previously mentioned, the tapered edge **94** of the upper jaw **92** normally impinges upon the label **96** remaining within the dispensing guide **80** between jaws **90** and **92** so that the labels are not inadvertently withdrawn into the strip **72** out of reach of the fingers.

If desired, the labels **96** may be substantially identical to labels **56** previously described and may be provided with indicia similar to the indicia **58** in the manner above described.

THE METHOD OF FIG. 1

Although the above described structure has application in a wide variety of circumstances, and although the method of using the invention may have various applications, the method will be described particularly with reference to admitting patients into a hospital and treating the patients subsequent to admission to the hospital.

Referring now to FIG. **1**, when a patient enters a hospital, a clerk or secretary will take critical information from the patient, particularly relating to the patient's identification, although information such as particular medication allergies and the like could also be included. The mentioned information is fed by the clerk into a conventional input device, such as a typewriter, which is electrically connected to a suitable digital strip printer. Although any suitable digital strip printer may be used, the Clary Model SP20 has been found to be satisfactory.

The digital strip printer will print the information on a plurality of serially attached identification labels which are, thereafter, placed in a receptacle i.e. receptacle **32**) attached to a band from the band supply. Alternatively, if desired, the labels may be fed into a passageway of an elongated band from the band supply.

Thereafter, the band is attached to the patient. When it is desired to, for example, take a blood sample from the patient, the blood is withdrawn from the patient and one of the labels affixed to the blood collection tube. Also, if desired, a second label may be removably attached to the label secured to the blood collection tube for a purpose hereinafter more fully described. The blood sample, identified by the label, is then conveyed to the hospital laboratory or the like.

The blood sample is thereafter analyzed according to the orders of the physician and a report containing the findings of the analysis is prepared. The label from the blood collection tube may be then affixed to the report or, if desired, the additional label removably attached to the blood collection tube may be then detached and affixed to the report. One or more copies of the report are returned to the laboratory and/or conveyed to any one or all of the data-receiving entities illustrated in FIG. **1**, i.e. the physician, computer storage, accounting and the patient chart.

Significantly, the ease with which the one or more labels may be taken from the patient and secured to a secondary object such as a blood collection tube minimizes the risk of confusing the identity of patients and corresponding blood samples. Also, the patient's identification can be at all times readily observed by concerned persons attending the patient because of the easy visual access to the identification labels.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. An identification band comprising an interiorly hollow strip adapted to be united to itself in an endless fashion, dispensing means mounted on the strip for discharging labels out of the strip one at a time, and a plurality of removable labels having indicia thereon serially detachably joined one to another received within said band and dispensable in seriatim from the dispensing means.

2. The device of claim **1** wherein said dispensing means is formed with a trailing edge portion dimensioned to be received within the hollow of said band and has an interior channel communicating with the hollow of said band to permit passage therethrough of said labels.

3. The device of claim 1 wherein said dispensing means is formed with opposing upper and lower jaws with said lower jaw being formed to extend substantially beyond the leading edge of said dispensing means to support said labels as they are dispensed therefrom and said upper jaw being formed with a tapered downwardly directed edge adjacent the leading edge thereof engageable with said labels to prevent retraction of said labels within said dispensing means.

4. A patient identification assemblage comprising:

a band comprising a strip inseparably unitable to itself in an endless fashion around a limb of a health care patient;

receptacle means mounted to the strip;

a plurality of labels each having previously prepared common indicia thereon which identifies the patient, the labels being serially arranged within and entirely concealed from exposure by the receptacle means;

means by which successive manual dispensing of the labels from the concealed position within the receptacle to an exposed position is accommodated.

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