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(54) Improvements in business forms assemblies.

(57) This invention is concerned with retainer systems for supporting forms assemblies for medical use particularly in hospitals which are capable of being able to record a medical test, for example a blood test, which assembly comprises a sheet to bear information and a bag to contain a medical sample and has an aperture wherein a record retainer comprising a continuous bar has a plurality of limbs (23, 26, 27), the lower limb (23) of which is capable of being located in an aperture of the form assembly to support a plurality of forms assemblies from the lower limb and the upper limb of which is formed as a carrying handle by which the forms assemblies may be transported.

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IMPROVEMENTS IN RECORD RETAINERS FOR FORMS ASSEMBLIES

This invention has reference to record retainers for forms assemblies and has particular reference to record retainers forms assemblies for medical use, for example in hospitals which are capable of recording a medical test, for example a blood test and have means associated with the form assembly for securing a sample of the medical test.

In British Patent Specification No.2081215 there is described a bag with a compartment to receive a container, for example for a blood sample and another compartment to receive a form to carry information about the sample. Adhesive means are provided to close the compartment for the sample container.

It is an object of the present invention to provide a record retainer for a combined form assembly and compartment capable of receiving a sample containing a blood or other medical sample and retaining a plurality of such forms assemblies together.

A record retainer 21 for supporting forms assemblies 25 for medical use including a sheet 1 to bear information about a medical test and a bag 1,5 to contain a medical sample and has an aperture 13 which retainer comprises a continuous bar 21 having a plurality of limbs 23,26,27, the lower limb 23 of which is capable of being located in an aperture of the form assembly to support a plurality of forms assemblies from the lower limb and the upper limb 26 of which is formed as a carrying handle by which the forms assemblies may be transported.

A record retainer for a forms assembly in accordance with the present invention will now be described by way of example with reference to the accompanying drawings wherein

Fig. 1 is a plan view of one part of the forms assembly,

Fig. 2 is a side view of the forms assembly of Fig. 1,

Fig. 3 shows a modification,

Fig. 4 is a side view of the modification shown in Fig. 3,

Fig. 5 is a side view of the forms assembly supported on a filing tray, and

Fig. 6 is a diagrammatic perspective view corresponding to Fig. 5.

Referring to Figs. 1 and 2 of the drawings, there is shown a forms assembly comprising a backing sheet 1. This backing sheet preferably comprises a continuous web 2 of forms stationery of paper but preferably is of paper laminated with plastics material. The backing sheet has marginal feed apertures 3 at the opposite sides of the web to enable the web to be fed through a typewriter or print unit of a computer whereby information is applied to the web as will be hereinafter described but for some applications such feed apertures are not necessary. The web also

has cross perforations to divide the web into forms lengths (only one form being shown in Fig. 1.).

The web has on the right hand side (as shown in Figs. 1 and 2) A written data area 4 suitable to receive information about a blood test to be carried out on a patient. Printed matter including lines defining areas relating to certain kinds of information, and words specifying the kind of information are included. Some of this information to be applied in the respective areas such as the name and address of the patient, may be applied by label to which data has been applied in a typewriter or like print unit but other information, for example as to the results of tests carried out as the blood sample may be inserted by hand on the web.

On the left hand side of the web 2 (as shown in Figs. 1 and 2), a transparent web 5 is secured by lines of adhesive to the continuous web 2 to form a bag secured on three sides and open on the third side. These lines of adhesive include a longitudinal line 6 extending longitudinally of the web 2 and adjacent to the margin of the web 2 and transverse lines of adhesive 7 and 8 extending transversely of the web on opposite sides of the lines of cross perforation dividing the web into form lengths. The adhesive is of the kind capable of adhering to both plastics sheet and to paper and conveniently is a synthetic resin based emulsion type adhesive as sold under the name Envapatch 234 by National Adhesives. The transparent web is suitably of plastics material of

the kind which does not tear by hand unless first cut and gives good visibility. Polyester film material and particularly the film material sold under the name of Melinex by ICI P.L.C. is found to be suitable. The transparent web 5 has feed perforations 3 for purpose of registration with the continuous web 2 but this is not absolutely necessary.

A line of fold perforations 9 extends longitudinally of the assembly and is provided centrally of the web between the inner edge of the transparent web 5 and the inner edge of the printed data area 4. A line of adhesive 10 extends longitudinally of the web 2 and is positioned between the fold perforations 9 and the inner edge of the printed data area. It is required that the line of fold perforations 9 shall be positioned midway between the inner edge of the transparent web and the centre line of adhesive 10. This is to ensure that when the form length is folded about the line of fold perforations 9, the line of adhesive 10 covers the inner edge of the transparent web 5 one half of the adhesive covering the lip of the transparent web 5 and one half covering the part of the web 2 between the lip of the web 5 and the line of fold perforations 9. As described the bag closed on three sides, is formed from the backing web 1 and the transparent web 5 with the lines of adhesive 6, 7 and 8 securing the bottom and sides of the bag. The line of adhesive 10 covering the mouth of the bag closes the bag on the fourth side thereby providing a completely sealed package.

A barrier sheet 11 covers the line of adhesive 10 to prevent the line of adhesive 10 sticking to other material. The barrier sheet is preferably a ribbon of waxed paper.

An additional line of cross perforations 12 is provided between the line of adhesive 10 and the area 4 of printed data to enable the printed data area to be detached from the assembly when information recorded on the data area is required for data processing or other purposes.

A pair of apertures 13 are positioned adjacent to and on opposite sides of and equidistant from the line of fold perforations 9 so that when the web is folded about the line 9, the apertures are in register so that the assembly may be suspended on a filing post or in a rail type suspension system to facilitate transport to the laboratory or for storage purposes until such time as they are required.

The printed data area 4 can be detached from the remainder of the form length and the information recorded on the area 4 can be used for the required purposes. In particular, the information area 4 may be used in conjunction with a Coulter machine for blood count purposes or a handwritten report may be completed on the form.

In a typical example, a form length has a width of 17.7 inches (450 mms) and a form depth of 5 inches (127 mms). It is preferred that the backing sheet 1 is of paper coated with a plastics material coating for

example, polythene on the reverse side (that is the outer side). For example, the paper is of 80 grammes per square meter bleached kraft sulphate paper covered with a coating of polythene of about 23 grammes per square meter.

When a business form as shown in Figs. 1 and 2 is to be used for requesting details of blood or other fluid tests to be carried out a sample of blood is taken from the patient and inserted in a capsule 15 into the bag made by the backing sheet and transparent web and closed on three sides in that particular form length. The barrier sheet is then removed and the form length is folded about the fold perforation line 9 so that the exposed line of adhesive 10 covers the inner edge of the bag and retainsthe capsule in the bag. The position of the line of adhesive when the form length is folded has half of its area covering the printed data area and the other half covers the edge of the bag. The folded over form length may be supported on a cross bar or filing post extending through the apertures 13 to facilitate transportation to a laboratory. Such a cross bar or filing post may be associated with a filing tray which constitutes a record retained to be hereinafter described. At the laboratory, tests are carried out and the results of these tests are recorded on the printed data area 4 and processed in the usual way as required by the hospital. It will

be noted that the capsule 15 is contained within the bag formed by the continuous web 2 and the transparent web 1 and may be removed from the bag by detaching at the line of adhesive 10. Alternatively the bag may be forced against an immovable surface to force the capsule to burst the bag.

A modified construction of business forms assembly is shown in Figs. 3 and 4 which construction is similar to the construction shown Figs. 1 and 2. A pair of duplicate forms sheets 13 of which is part of a web extending longitudinally of the business forms assembly, is positioned above the printed data area. The form sheets 13 are printed in the same or similar format as the data area 4. The form sheets 13 are either of self copy paper (such as the self copy paper sold under the Trademark MCP) or the sheets 13 are record sheets and inter-leaved sheets of transfer carbon paper and positioned between adjacent record sheets for data transfer purposes. The sheets 13 are secured together and to the printed data area by lines of adhesive 14. The inner edges of the sheets 13 are positioned in line with the lines of longitudinal perforations 12. The duplicate formssheets enable details of information about blood tests, tec. to be recorded on more that one sheet of paper for example for medical record purposes.

The assembly shown in Figs. 3 and 4 operates in the same way as the assembly shown in Figs. 1 and 2 except that additional copy sheets corresponding to the printed data area 4 are provided as may be required.

In a further alternative arrangement, the printed layout of the data area 4 may be reproduced on the back of the continuous web 2 on the side, remote from the transparent web 5.

Referring to Figs. 5 and 6 of the drawings there is shown a record retainer 21 located on a tray 22 (only part of which is shown in Fig. 6). The record retainer 21 comprises a continuous bar of metal for example of steel covered by a covering of plastics material for example polyethylene or polypropylene but preferably of nylon. The nylon covering may be applied first by heat treatment and then by dipping the metal assembly in nylon powder or nylon preformer powder. The plastics material must be capable of withstanding steam cleaning and sterilizing as in an Autoclave. The bar includes a lower limb 23 which is substantially straight and positioned horizontally or nearly so, so as to allow specimens to slide away from the free end but has an upwardly curved free part 24. This lower limb 23 has a diameter slightly less than the diameter of an aperture formed adjacent the upper edge of a business forms assembly shown in Figs. 1 and 4 divided into a single bag length and shown diagrammatically at 25.

The bar also includes an upper limb 26 integrally connected to the lower limb 23 by an intermediate portion 27 to form a carrying handle and so that specimens will slide down when removed from the main assembly. Adjacent its outer end the upper limb which has a diameter the same as the diameter of the lower limb 23 has a straight portion 28 positioned substantially horizontally. At about the mid part of the upper limb the limb bends upwardly and then bends to a further substantially horizontal portion 29 but spaced from the intermediate portion 27 by a larger distance than the distance between the straight limb portion and the intermediate portion. The outer end of the further horizontal portion 29 terminates in a bend which joins the intermediate portion 27.

The record retainer is capable of supporting the forms records 25 on its lower limb 23 and of being supported by a sleeve 24 on the tray 22 to be hereinafter described.

The tray comprises a drip tray base 31 of rectangular form with shallow side walls 32 at each side. An integral handle member 33 with vertical side parts 33a and a horizontal top part 33b is secured at the lower end of its side parts 33a to the respective side walls as by welding

A plurality of sleeves 34 are secured as by welding to the horizontal top part 33b of the handle member. The end of the sleeve 34 to receive the record retainer is chamfered to facilitate insertion of the record retainer in the sleeve. The longitudinal centre line of each respective sleeve is positioned above and at right angles to the horizontal top part 33b and are each secured to the top part by welding.

The sleeves are each located in a horizontal plane in the record retainer shown. It is intended that there are three sleeves secured to the top part 33b with the sleeves so spaced so that when the forms records 25 which when folded has a depth of approximately nine and one half (9½) inches (24 centimetres) and has a width of approximately five (5) inches (13 centimetres) the forms records assemblies lie close to the tray 22 and the forms records assemblies are positioned in groups which groups lie close to one another side by side.

The handle member 33 as shown has a carrying handle 35 of similar bar material covered with plastics material which is secured to the top patt 33b. Also an extension 36 is formed from the respective side parts and has an eye portion which enables the tray to be mounted on a wall or other surface as by a screw 37. The tray is also covered with a coating of nylon or other plastics material. The covering is provided in order that the record retainer and tray may be capable of being subjected to heat treatment such as steam cleaning as in an Autoclave for sterilization purposes.

When a record retainer as described is to be used the requested details for example of a medical test are entered on a forms record and a sample (for eample of blood) is taken and inserted into a

container which in turn is placed in the bag or envelope of the forms records. The bag or envelope is then closed and the forms record is placed on the record retainer with the aperture in the forms record engaged on the lower limb 23. In the record retainer described there are three separate record retainers so one retainer may be used to receive sample tests relating to for example HAEMATOLOGY, another for MICRO BIOLOGY and the third for CLINICAL CHEMISTRY.

When enough forms records are mounted on the record retainer, the record retainer is carried by the horizontal carrying portion to the tray where the upper limb engages a selected one of the sleeves 34. When the sleeves are engaged the tray with the record retainer is carried to the appropriate laboratory for testing where the records are dealt with and further information about the samples are recorded on the forms records and they are further processed.

Instead of providing a retainer system with the continuous bar retained on a carrying tray it may be retained in a carrying case having components similar to the tray but enclosed by panel members.

Also instead of supporting the record retainers on the tray member shown in Figs. 5 and 6 they may be supported on a sleeve 37 which is secured as by welding to a pair of brackets 38 each with an eye 39 which enables the sleeve to be secured as by a screw to a wall or other surface. The opposite ends of the sleeve are chamfered to enable the retained to be located within the sleeve from either of the two ends shown in Fig. 6.

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CLAIMS

1. A record retainer 21 for supporting forms assemblies 25 for medical use including a sheet 1 to bear information about a medical test and a bag 1, 5 to contain a medical sample and has an aperture 13 which retainer comprises a continuous bar 21 having a plurality of limbs 23, 26, 27, the lower limb 23 of which is capable of being located in an aperture of the form assembly to support a plurality of forms assemblies from the lower limb and the upper limb 26 of which is formed as a carrying handle by which the forms assemblies may be transported.

2. A retainer as claimed in Claim 1 wherein the upper limb 26 has a part which comprises a carrying handle 29 and another part 28 which is arranged substantially horizontally.

3. A retainer as claimed in Claim 1 wherein the continuous bar is covered with a covering of plastics material for example polyethylene or polypropylene or nylon.

4. A retainer as claimed in Claims 1 or 2 wherein the upper limb is joined to the lower limb by an intermediate portion 27.

5. A record retainer as claimed in Claim 2 also having a carrying tray 22 including a tray part 31 with a handle member for carrying purposes which handle member 33 has a handle 33b and a plurality of sleeves 34 secured to it each sleeve supporting a respective record retainer.

6. A record retainer as claimed in Claim 5 wherein each of the sleeves 34 is chamfered to facilitate insertion

of the record retainer in the sleeve 34.

7. A record retainer as claimed in Claim 1 characterised in that the forms assembly comprises a backing sheet first part intended to receive information about the medical sample and a second part comprising a container characterised in that the first part of the backing sheet is capable of receiving information either type-written or handwritten written thereon and the assembly includes a transparent sheet 5 secured on three sides by lines of adhesive 6,7,8 to the second part of the backing sheet to form a bag with an open mouth to contain a medical sample and the assembly has a fold line about which fold line the assembly is folded, a line of adhesive 10 is provided adjacent to the mouth of the bag 5a on the opposite side of the fold line to the fold line to the line of adhesive to contact the mouth of the bag when the assembly is folded about the fold line to seal the bag with the sample contained in the sealed bag.

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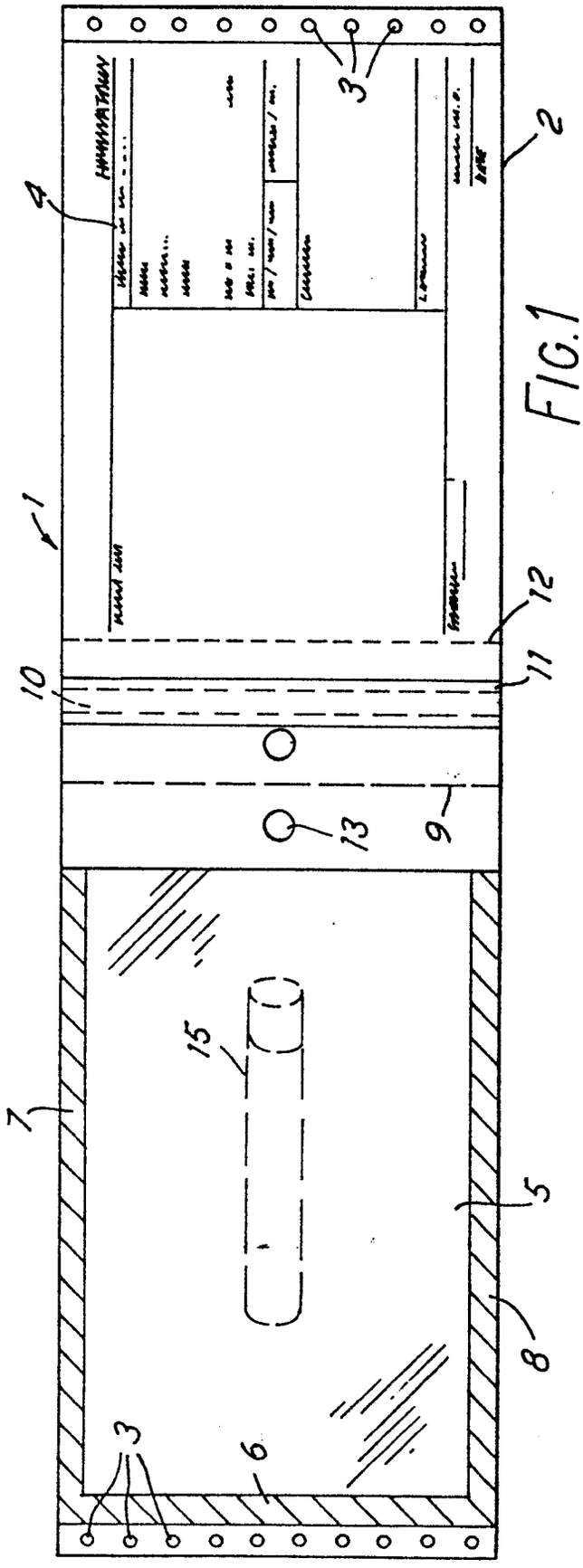

FIG.1

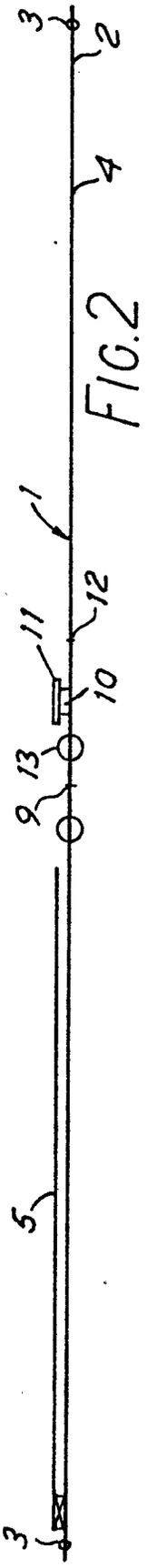

FIG.2

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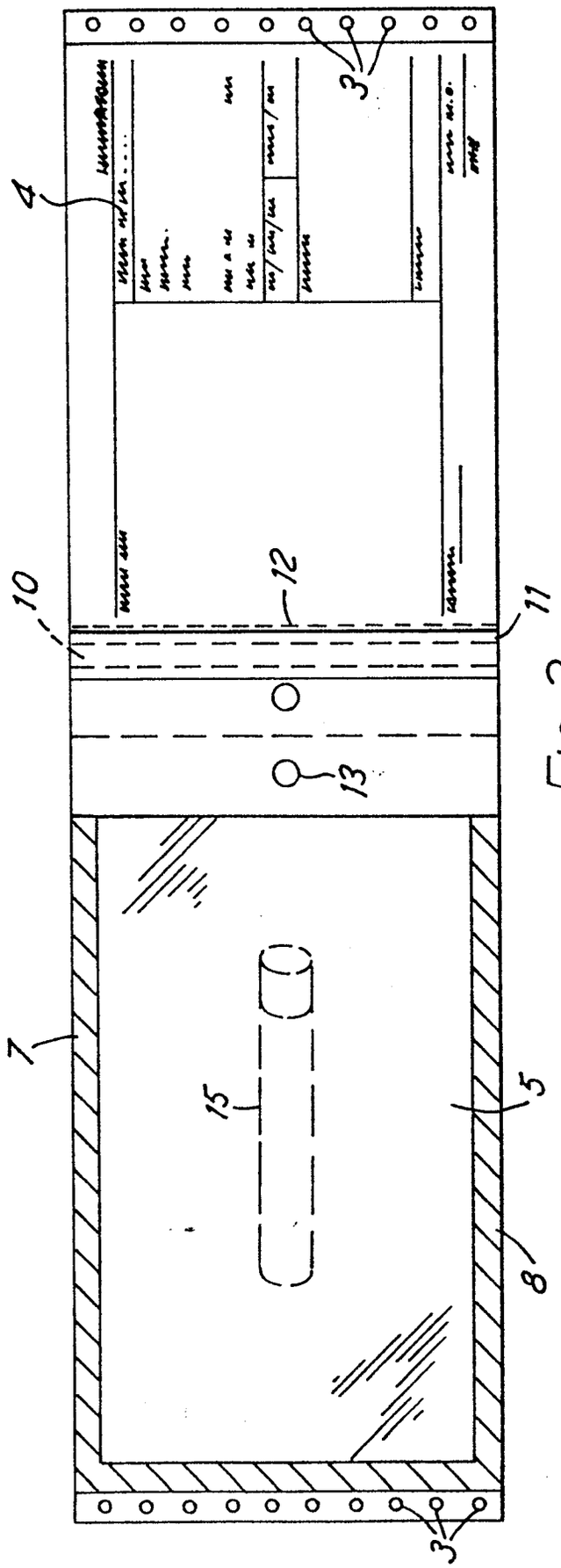

FIG. 3

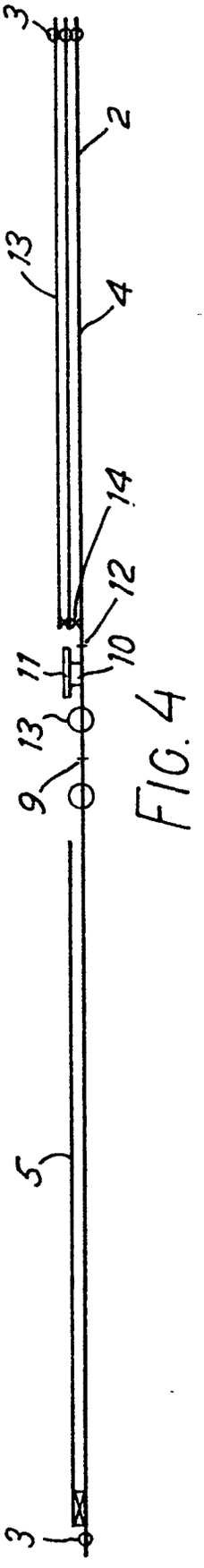

FIG. 4

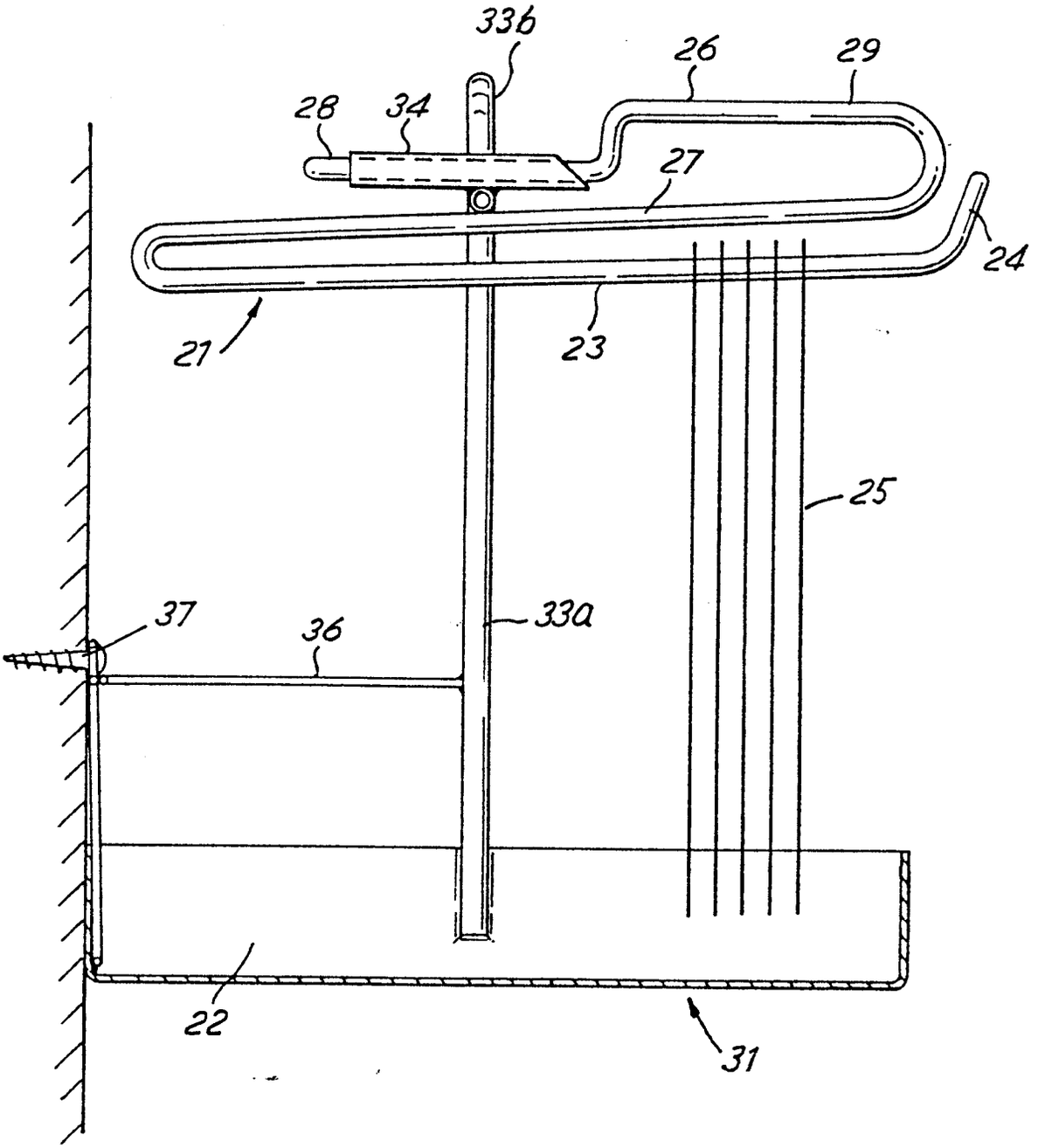

FIG.5

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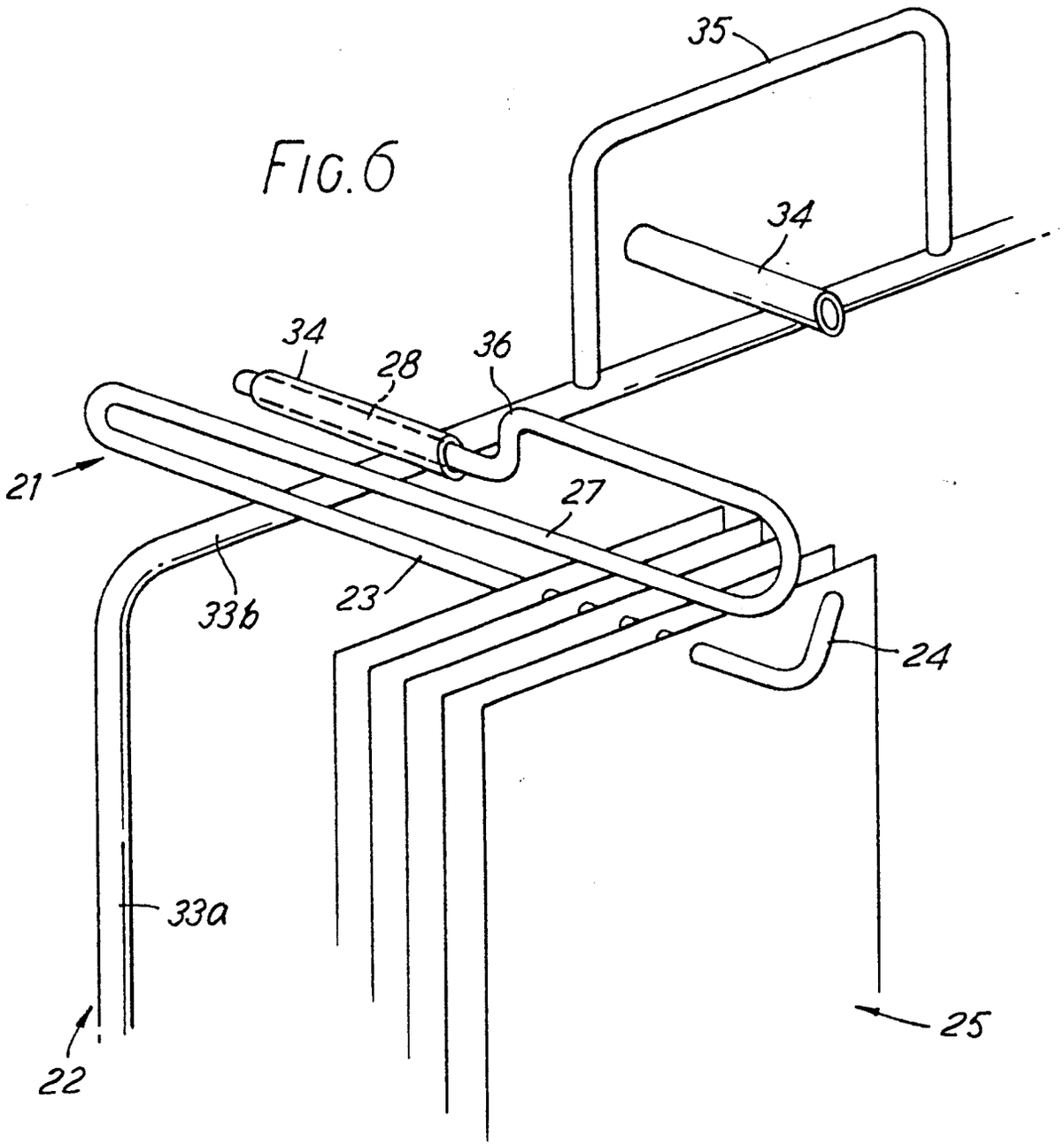
FIG.6



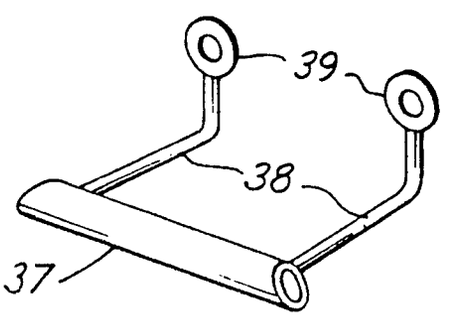


FIG.7