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(54) **ERGONOMICALLY BALANCED SURGICAL INSTRUMENTS HOLDER**

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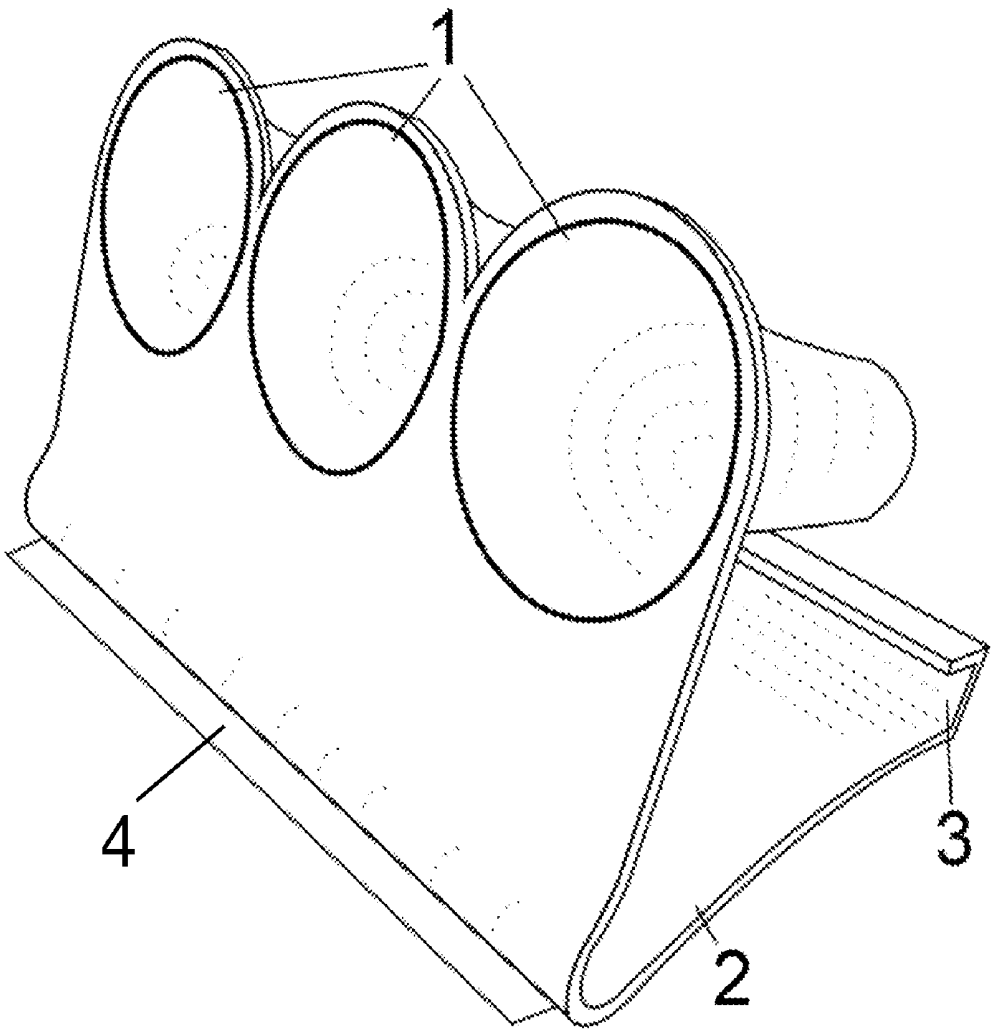
(57) **ABSTRACT**

It is the first surgical instrument holder designed specifically to maximize the efficiency of instrument exchange during surgery. It sits on top of the patient laying on the operating room table and fits the curvature of the average human torso while it places the chambers that hold the surgical instruments at the most natural angle for the hand of the standing surgeon. The size of the chambers is designed so it fits most laparoscopic surgical instruments in use today. It has two openings, an entrance opening and an exit opening. The entrance opening faces the surgeon and designed to enable the surgeon to insert the instrument without having to look at the holder. That enables the surgeon eyes to remain completely focused on the surgical field. That may increase the efficiency of instrument exchange. Which increases the efficiency of the operation. It also prevents the instruments from falling on the floor and the potential to break.



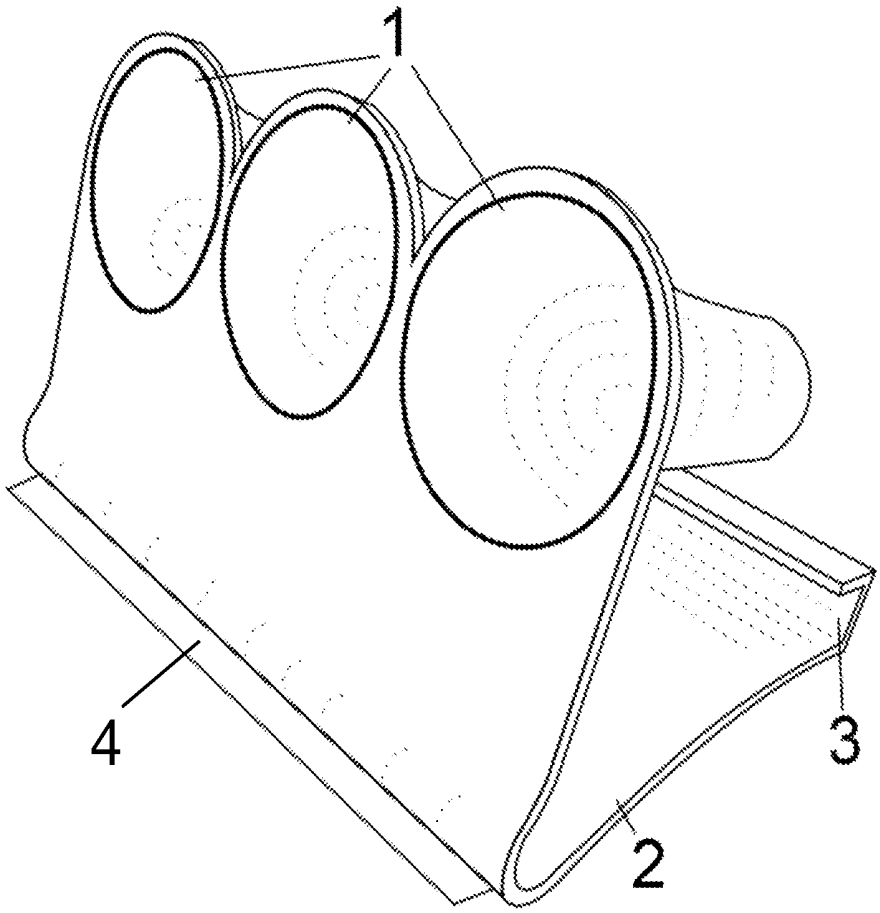


Fig.1

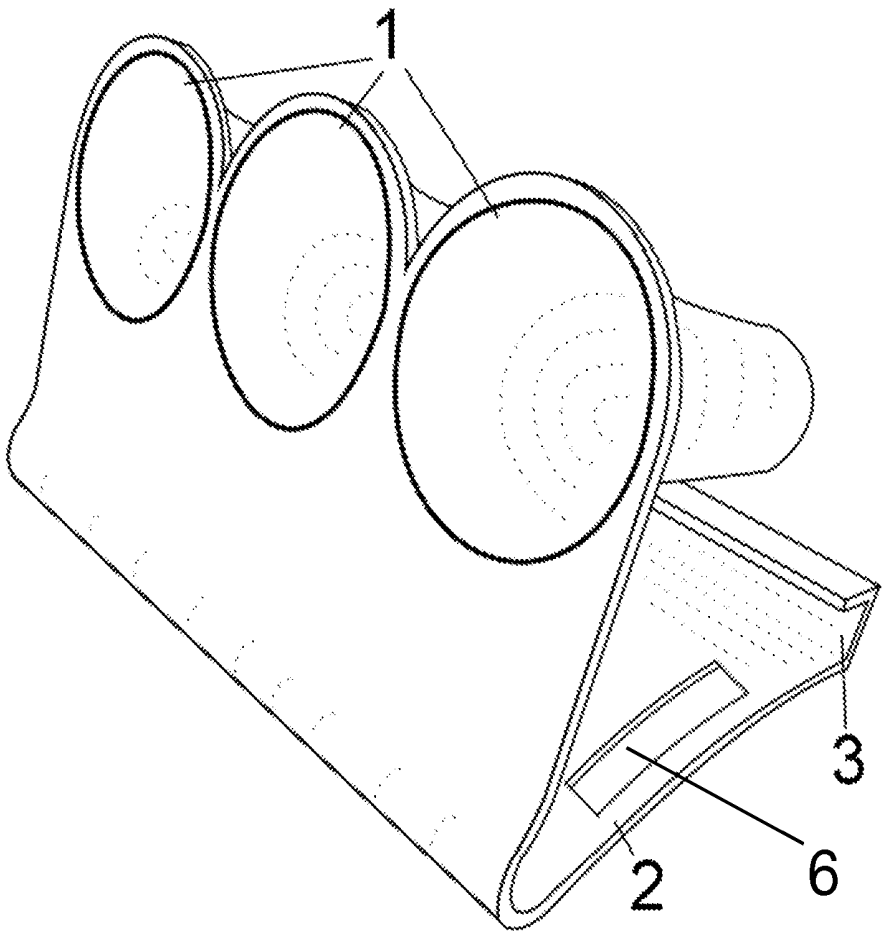


Fig. 2

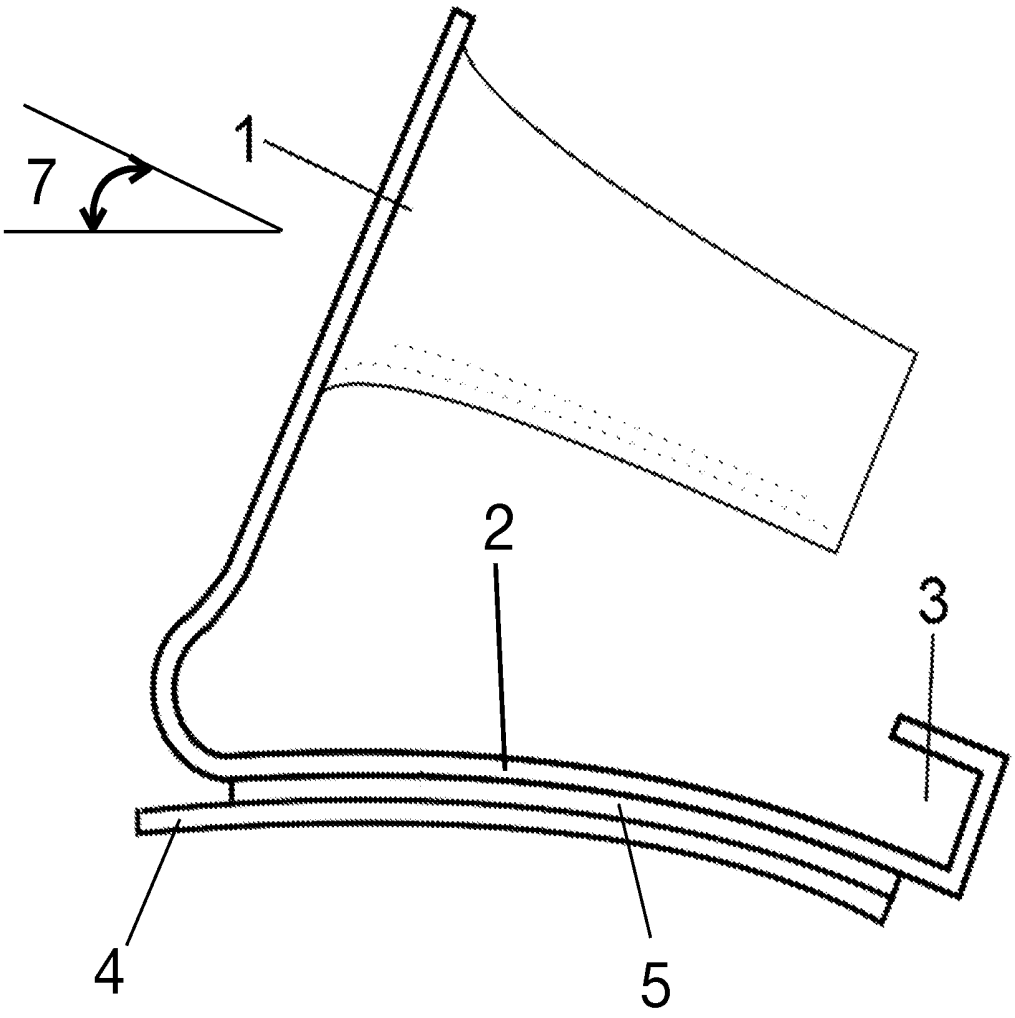


Fig. 3

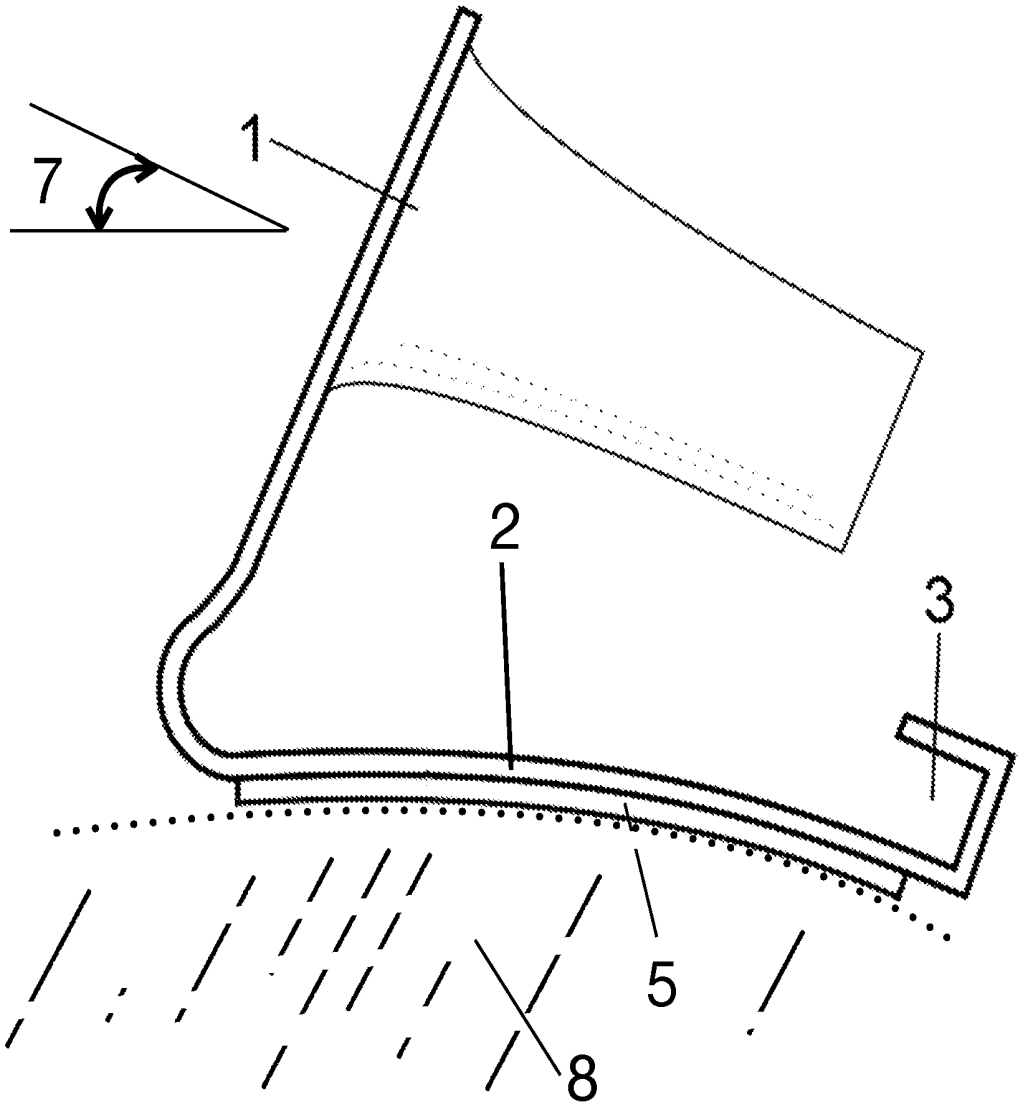


Fig. 4

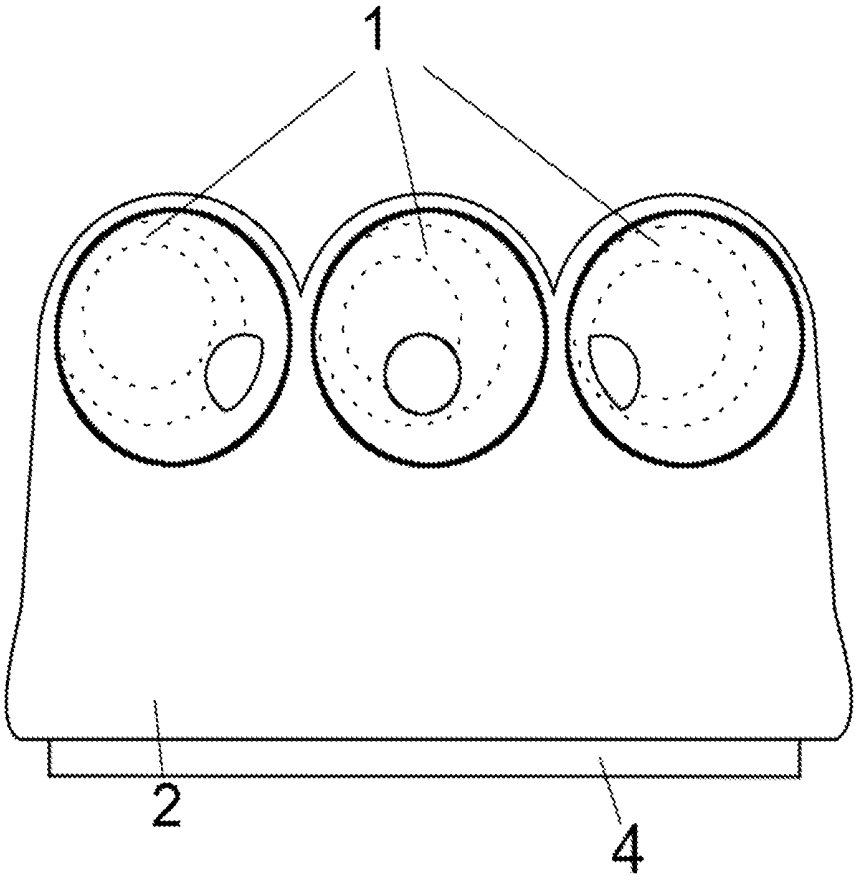


Fig. 5

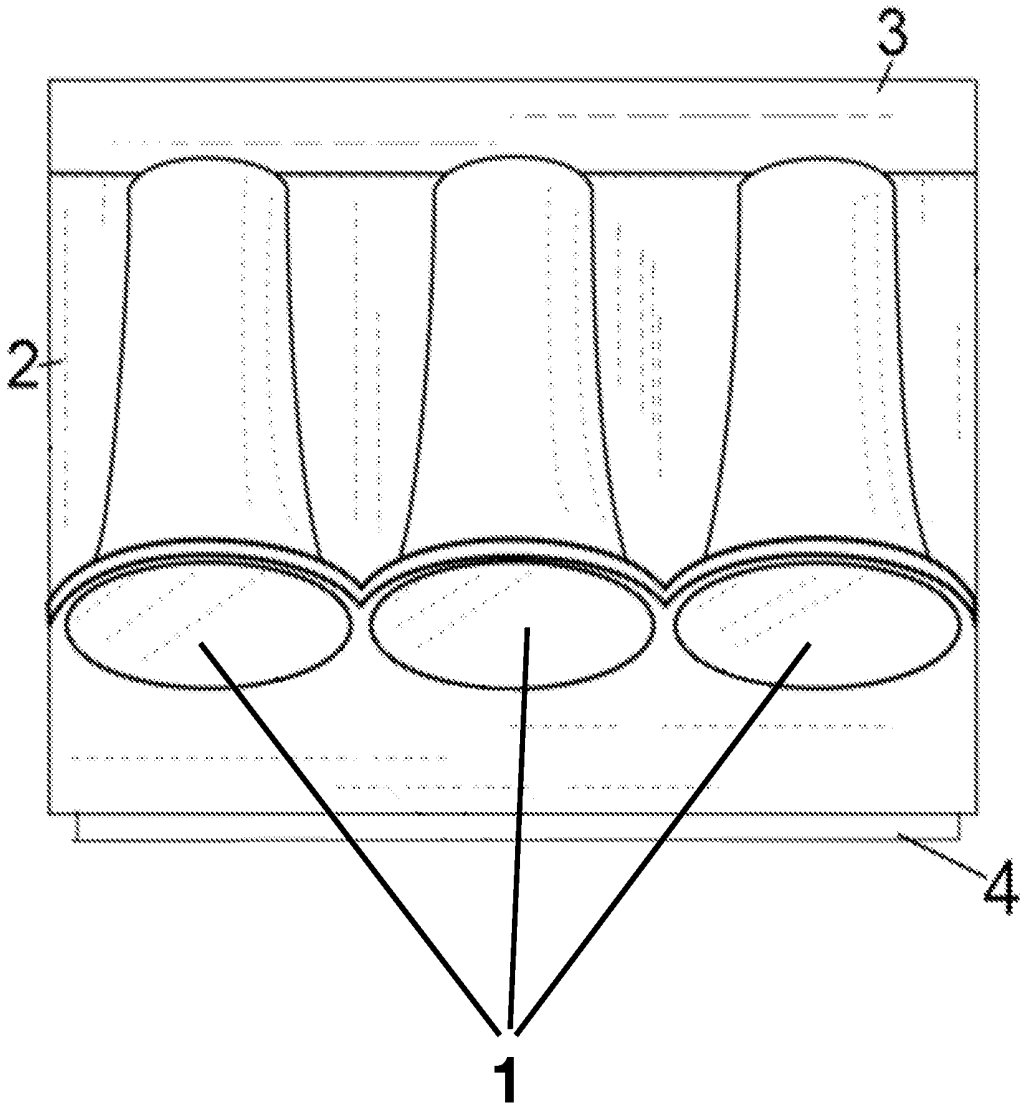


Fig.6

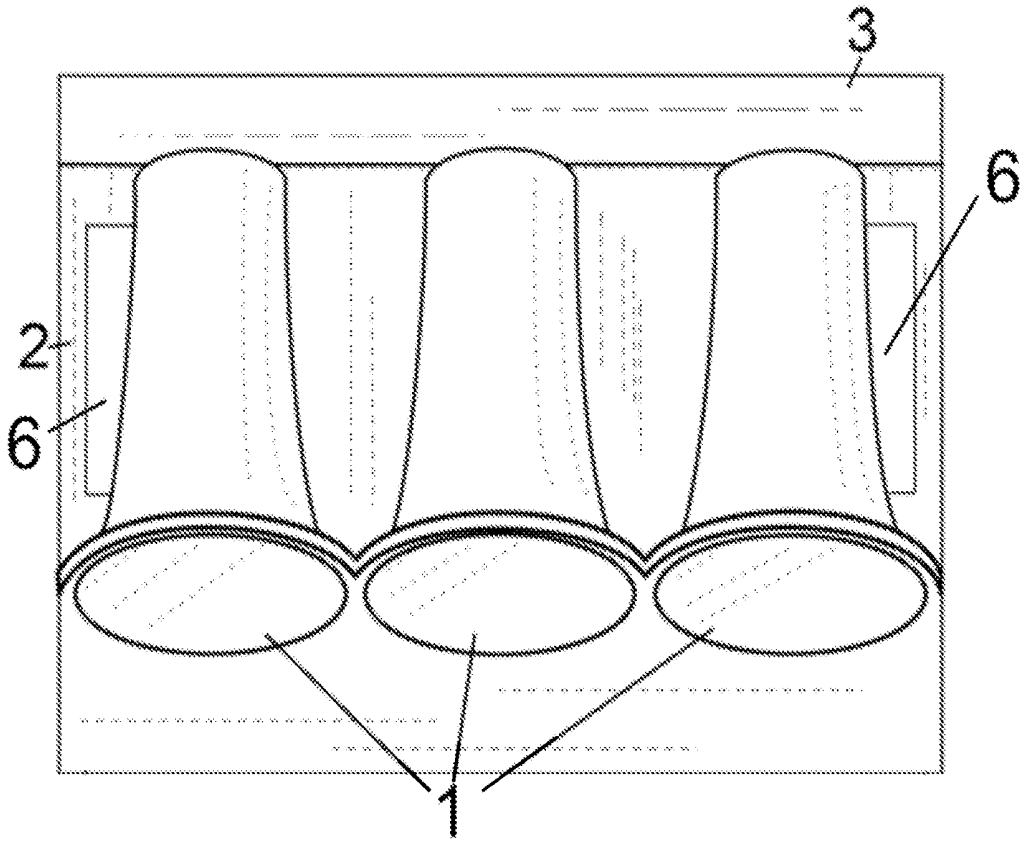


Fig.7

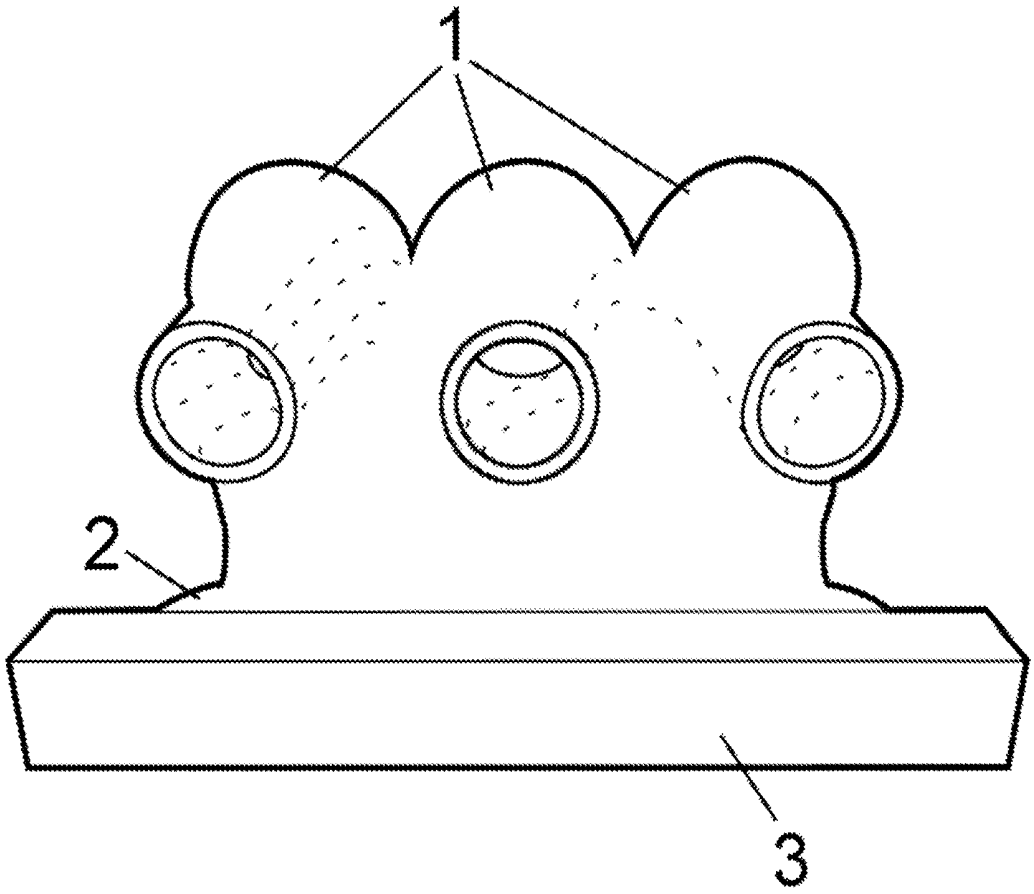


Fig. 8

ERGONOMICALLY BALANCED SURGICAL INSTRUMENTS HOLDER

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0001] FIG. **1** is an axonometric perspective view of the invention with a double sided tape as an embodiment of the adhesion mechanism.

[0002] FIG. **2** is an axonometric perspective view of the invention with an opening for a clip as an embodiment of the adhesion mechanism.

[0003] FIG. **3** is a side orthotopic view of the invention with a double sided tape as an embodiment of the adhesion mechanism.

[0004] FIG. **4** is a side orthotopic view of the invention with a double sided tape as an embodiment of the adhesion mechanism after the backing was removed and the invention was attached to the patient's abdomen.

[0005] FIG. **5** is a front perspective view of the invention with a double sided tape as an embodiment of the adhesion mechanism.

[0006] FIG. **6** is a top orthotopic view of the invention with a double sided tape as an embodiment of the adhesion mechanism.

[0007] FIG. **7** is a top orthotopic view of the invention with an opening for a clip as an embodiment of the adhesion mechanism.

[0008] FIG. **8** is a back perspective view of the invention with an opening for a clip as an embodiment of the adhesion mechanism.

DETAILED DESCRIPTION OF THE INVENTION:

[0009] Referring to FIGS. **1**, **3**, **4**, **5**, **6**, **8** is referring to an embodiment of the invention where the adhesive mechanism is comprised of a double sided tape **5** where the adhesive backing **4** extends in the front to make it easier for the user to peel off. The FIGS exhibit the other components of the invention, including three chambers **1**, a base **2**, and an optional channel **3** that helps with cable management or holding a tube during surgery.

[0010] FIGS. **2**, **7** are referring to an embodiment of the invention where the adhesive mechanism is an opening to accommodate a clip **6** in addition to the other components mentioned above.

[0011] FIG. **3** demonstrate the angle of the chambers with the horizon **7**

[0012] FIG. **4** demonstrates the invention adhered to the abdomen **8** (directly on the skin or on the drape covering the skin). Notice that the backing **4** has been removed.

[0013] The surgical instrument holder is made up of multiple cone shaped chambers **1** with a wide entrance opening at the side facing the surgeon and a narrower exit opening on the other side that fits most of the laparoscopic surgical instruments in use today. It is designed so the surgical instruments can enter from the entrance opening; protrude on the other side from the exit opening. The entrance opening is large enough to allow most instruments to go through it. However, it is not large enough to allow for the instrument's handle to go through. Thus, the entrance opening holds the instruments in their location and prevents them from going completely through the instrument holder.

[0014] The chambers **1** are aligned at an angle **7** that makes it optimal for the standing surgeon dominant hand. It is made from a single piece of hard plastic and a double-sided tape **5** on its bottom to help it adhere the skin of the patient's abdomen or the drape **8**.

[0015] It is the first ergonomically configured surgical instrument holder that enables efficient instrument exchange during an operation.

1. A surgical instrument holder, comprising:

A body comprised of multiple chambers, said chambers are aligned on a plane, said plane is at an angle with the horizontal plane, said angle is between 0 and 89; and

A base attached to the said body; and

An adhesion mechanism attached to the said base, said adhesion mechanism fixates the said surgical instrument holder to the surface underneath.

2. A surgical instrument holder according to claim **1** in which the said angle is 24

3. A surgical instrument holder according to claim **1** in which there are three of the said chambers

4. A surgical instrument holder according to claim **1** in which the said body and the said base are made from one solid piece

5. A surgical instrument holder according to claim **1** in which the said body and the said base are made from two different pieces

6. A surgical instrument holder according to claim **1** in which everything is made of plastic

7. A surgical instrument holder according to claim **1** in which everything is made of Metal

8. A surgical instrument holder according to claim **1** in which the said adhesion mechanism is made of double sided tape

9. A surgical instrument holder according to claim **1** in which the said adhesion mechanism is comprised of a flexible clip

10. A surgical instrument holder according to claim **1** in which the said adhesion mechanism is comprised of an indentation or an opening that can accommodate an external clamping mechanism

11. A surgical instrument holder according to claim **1** in which the each chamber is comprised of one entrance opening and one exit opening. The said entrance opening is larger that the said exit opening

12. A surgical instrument holder according to claim **1** in which the each chamber is funnel shaped.

13. A surgical instrument holder according to claim **1** in which the said base configured to include a part that rests on the patient's body either directly on the skin or on the drape covering the body.

14. A surgical instrument holder according to claim **1** in which said chambers being configured to retain a variety of laparoscopic instruments.

15. A surgical instrument holder according to claim **1** in which the each chamber said entrance opening has twice the dimensions of said exit opening.

16. A surgical instrument holder according to claim **1** in which the said body plane is at an angle with the vertical sagittal plane that renders the angle more ergonomic

17. A surgical instrument holder according to claim **1** in which the said base has a channel, said channel can accommodate a tubular structure and help stabilize a tubing or a wire used in surgery.

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专利名称(译)	符合人体工程学的平衡手术器械支架		
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[标]申请(专利权)人(译)	ENTABI FATEH		
申请(专利权)人(译)	ENTABI，法塔赫		
当前申请(专利权)人(译)	ENTABI，法塔赫		
[标]发明人	ENTABI FATEH		
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摘要(译)

它是第一个专门设计用于在手术期间最大化仪器交换效率的手术器械支架。它位于放置在手术台上的患者的顶部并且适合普通人体躯干的曲率，同时它将保持手术器械的腔室放置在站立外科医生的手的最自然角度。腔室的尺寸设计成适合当今使用的大多数腹腔镜手术器械。它有两个开口，一个入口和一个出口。入口面向外科医生并且设计成使外科医生能够插入器械而无需看护器。这使得外科医生的眼睛能够完全专注于手术区域。这可能会提高仪器交换的效率。这提高了操作效率。它还可以防止仪器掉落在地板上并有可能损坏。