



## Development and application of a rotatable and multifunctional bedside logo classification storage box placed at the nurse station

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### Abstract

**Objective:** Develop a rotatable and multifunctional bedside logo classification storage box placed at the nurse station to improve the work efficiency of nurses.

**Method:** The storage box is mainly composed of the base, the column, the center box and the outer ring box. The column is installed on the base. The center box is installed on the column through the bearing activity. The outer ring box is arranged on the circumference of the center box, and the center box and the outer ring box are arranged staggered from high to low. For clinical use, the corresponding items can be taken and placed in order by rotating the box body.

**Result:** After a small amount of clinical trials, the time for nurses to take or place the items was shortened by half, and the correct rate was as high as 99%.

**Conclusion:** The rotatable and multifunctional bedside logo classification storage box has the advantages of small occupied space, clear classification of items, and short take or place time, which can effectively eliminate the phenomenon of mistaking or misplacing and improve the work efficiency of nurses.

**Keywords:** rotatable, bedside logo, storage box

### 1. Introduction

In the clinical nursing work, some items, supplies, nursing appliances and bedside logos are often stored a variety of cabinets or drawers at the nurse station <sup>[1]</sup>. In particular, the bedside logos that show important information about patients are not only diverse and used frequently, but also can be used repeatedly after classification and recycle <sup>[2]</sup>. At present, the types of bedside logos are: nursing level, diet type, risk logo, allergy logo, the bed management doctor and the responsible nurse. Our existing bedside logos are centralized placed in rectangular organexiglass storage box at the nurse station. The storage box is composed of simple groups of small grids. It has the disadvantages of not dustproof due to no cover, occupying a large space, single function and difficulty classification. Although the box body is transparent, due to the wide variety of loges, these loges were often stored in confusion when recycled, and they were time-consuming and laborious to find them when they were reused. As a result, the nursing work efficiency was low and the misplaced phenomenon was serious. In view of this situation, the author had designed and made a rotatable and multifunctional bedside logo classification storage box (national utility model patent ZL 2019 2 1279175.5), which is now introduced as follows.

### 2. Materials and Production

#### 2.1. Materials

The storage box base (Including the outer ring box, the center box and its box cover, the removable partition plate and the curved label position above it) is made of transparent plastic; the base, column and bearings are made of stainless steel.

## 1.2 Production method

The rotatable and multifunctional bedside logo classification storage box is composed of the base, the column, the center box and the outer ring box. The column is installed on the base. The center box is installed on the column through the bearing activity. Six sets of outer ring boxes are set at the circular interval of the central box. The center box has a box cover, and is equipped with a removable partition inside. The central box is divided into six fan panels. Each group of outer ring boxes is composed of upper outer ring boxes and lower outer ring boxes, which are arranged in the upper and lower layers. The inner wall of the upper outer ring box is made with a card slot, and the card slot is installed with a removable partition, which divides the inner cavity of the upper outer

ring box into several small grids. The front of each compartment has an arc label. The arc label is composed of two transparent clips. Label paper can be inserted between the two transparent clips. The lower outer ring box with a drawer structure is installed below the upper outer ring box. A handle with a label is installed outside the lower outer ring box, through which the lower outer ring box can be pulled out radially along the slide rail. The central box and its surrounding outer ring boxes are arranged in a staggered manner from high to low. The small grids in each row in the outer ring box are also arranged in a staggered manner from high to low. The schematic diagram of the structure is shown in Figure 1 to Figure 4.

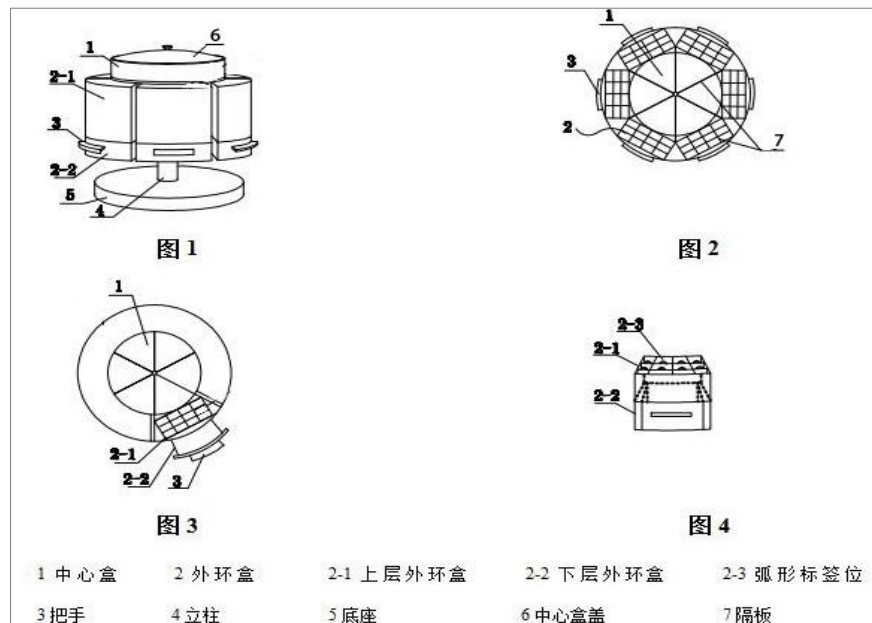


Fig 1

## 2 Use Method

The rotatable and multifunctional bedside logo classification storage box is mainly used for the sorting and storage of nursing supplies, which is divided into public nursing supplies area and special nursing supplies area. The central box is the storage area for public nursing supplies, in which general nursing supplies are generally placed, such as nail clippers, warehouse keys, catheter identification and catheter fixing stickers, etc. The 6 groups of outer ring boxes are specially used for placing various kinds of bedside signs, and the bedside marks of the same type are placed in the same group of outer ring boxes. The interior of the upper outer ring box is divided into small grids of different sizes by detachable partitions. Bedside signs with high frequency and large number are placed in the large grid, and otherwise placed in the small grid. Nurses can use the label paper inserted in the arc-shaped label position in front of the grid to identify the sub-categories in the same category, such as diet categories: ordinary diet, liquid diet, low-salt and low-fat diet, diabetes diet, etc. For those bedside signs of the same type that are frequently used or cannot be accommodated by the upper outer ring box, they can be stored in the lower outer ring box of the same group and marked on the label on the handle. According to the doctor's advice, the signs that are usually

inserted beside the patient's bed in order from top to bottom are: nursing level, diet type, allergy mark, risk mark, bed management doctor and responsible nurse. In order to be consistent with the above order, the types of logos stored by the 6 groups of outer ring boxes are also in order. Nursing level, diet type, allergy identification, risk identification, tube bed doctors and responsibility nurses. By rotating the outer ring box from right to left, nurses can get the corresponding bedside signs in turn, and they also use the above method to insert them back in sequence when recycling bedside signs.

## 3. Advantages

The rotatable and multifunctional bedside logo classification storage box is arranged in a staggered pattern from high to low as a whole, which does not block the nurse's sight and is also convenient for correct identification of the logos. The label position in front of each small grid in the outer ring box is made into an arc, which is not easy to scratch the nursing staff, and also makes the sub-category identification clear and clear. This way can effectively improve the accuracy of nursing and facilitate searching and picking. Its 360-degree rotatable cylindrical design not only saves space, but also the nurse can rotate the box body from right to left once every time a bedside logo is extracted according to the order of

hanging and placing the logo on the bedside, until the required logo is extracted. The box is convenient for nurses to pick and place labels in order and avoid the phenomenon of missing and mixed. In short, it can improve the efficiency of nursing work.

#### **4. Conflict of interest**

The authors declared no conflict of interest for this study.

#### **5. Consent for publication**

All authors have given their consent to publish this article.

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