

第 16 回知的財産翻訳検定<第 9 回和文英訳>

1 級 機械工学 標準解答

問 1

There are known small electronic devices such as camcorders, transceivers, and the like, which use batteries such as primary or rechargeable batteries for the electrical power source thereof. Such batteries are easily obtained, and convenient for the user. However, few users are fully aware that battery life is greatly influenced by temperature. Accordingly, there has been a problem in that users using small electronic devices in cold situations, such as on ski slopes or when snow trekking, may mistakenly deduce that the markedly short battery life is a device malfunction. Actually, battery life in a low-temperature environment of 0°C or lower may be half that at room temperature around 20°C. The difference in battery life of a AA battery between temperature environments of 25°C and 10°C is around 1/2 to 1/4.

To solve this problem, there has been proposed such a battery, where a temperature property display member, formed of a temperature-sensitive material which changes color according to temperature, is provided on the packaging in which the battery is shipped. This is intended to allow the user to recognize the temperature at which the battery is being used by the color of the temperature property display member, thus presenting the user with a display of battery life according to temperature, and facilitating improvement in user convenience.

## 問 2

Fig. 1 is a perspective view of an intermediate member 120 to which a collimator lens is fixed by adhesion. The intermediate member 120 according to the First Embodiment has provided on the front and rear faces thereof recesses 121a and 121b corresponding to the form of the collimator lens, to serve as adhesion seats. Through holes 124 in which screws are inserted are provided near the edges of the intermediate member 120 in the main scanning direction, so as to be symmetrically situated across an optical axis direction line passing through the middle of the intermediate member 120 in the main scanning direction. This arrangement allows the intermediate member 120 to be simply flipped 180 degrees on the optical axis as to the housing when reusing the optical scanning device, and the recess 121b on the rear side thereof can be used as a new adhesion seat. **The** recesses 121a and 121b preferably have the surfaces thereof formed unevenly, so that the surface area is greater than the surface area of the circumferential face of the collimator lens. This arrangement where the surface area of the recesses 121a and 121b is increased allows adhesive to be retained in the recesses 121a and 121b, suppressing adhesion thereof to the collimator lens.

問3.

What is claimed is:

1. A linkage mechanism used for an umbrella frame structure, comprising:

an umbrella shaft (1) that includes a ferrule at one end and a grip at another end;

a fixed ring (5) fixed to the end of the umbrella shaft (1) at a side of the ferrule;

umbrella ribs (6, 7, 4) radially fixed to the fixed ring (5);

a moving ring (2) configured to move in an axial direction of the umbrella shaft (1); and

a spreader (3) that couples the moving ring (2) and the umbrella rib (6, 7, 4) together, wherein

the umbrella ribs (6, 7, 4) include a plurality of connecting ribs (6), a plurality of drive rods (7), and a plurality of main ribs (4), the connecting ribs (6) each including one end turnably attached to a periphery of the fixed ring (5), the drive rods (7) each including one end turnably attached to an end portion of the connecting rib (6) at an opposite side of the fixed ring (5), the main ribs (4) each including a middle portion in an axial direction of the main rib (4), the middle portion being turnably attached to an end portion of the drive rod (7) at an opposite side of the connecting rib (6), and

the spreader (3) includes one end and another end, the one end being turnably attached to a periphery of the moving ring (2), the other end being turnably attached to an end portion of the main rib (4) at the fixed ring (5) side, the spreader (3) being journaled at an intersection point between the spreader (3) and the connecting rib (6).