

**DESIGN RESEARCH ON CLIP-ON SPOON FOR DISPOSABLE CUPS WITH HANDLE FUNCTION****Rui-Lin Lin***

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KEYWORDS: clip-on spoon, handle for disposable cups.**ABSTRACT**

When making coffee or milk tea in a disposable cup, a stirring spoon is usually needed. The spoon is usually thrown away right after use, causing waste. Furthermore, when hot water is poured into a disposable cup, holding it with bare hands is a difficult task. Therefore, this design idea came up. The handle of the spoon can be clipped on the edge and bottom of the disposable cup and become a handle, making it more convenient to pick up the cup. If necessary, the spoon can be taken off the cup and used for stirring. It can then be attached back to the cup after washing. The purpose of environmental protection can be achieved with this design.

INTRODUCTION

Stirring is often necessary when making coffee or milk tea, but throwing away the spoon after use is wasteful and not eco-friendly. However, if not discarded, placing the spoon on the table or back into the common cup may seem inelegant and also poses health concerns.

The clip-on spoon attached to the disposable cup is designed and shaped as a handle. The spoon has clips on its upper and lower portions that can be attached to the edge and bottom portion of the disposable cup, causing it to become a handle. With this structure, when a spoon is needed, it can be removed from the disposable cup for use. When not in use, simply clip its upper and lower portions to the cup's edge and bottom portion, and it becomes a handle.

LITERATURE REVIEW

The invention of spoons may not have been as earth-shattering as the invention of the wheel or the needle, but it can still be said to be an influential concept. From the dawn of humanity, items similar in shape to a spoon had been used to ladle and drink soup [5]. A research on selling stirring spoons with sugar and coffee emphasized using local raw materials, low cost production, and beautiful packaging in order to establish commodity brand image [4].

Experiments were carried out on ingredients used to manufacture plastic spoons with the expectation of finding a more suitable material for its production [1]. In addition, experiments were made with regard to different spoon shapes to determine the stirring effect. The most suitable stirring spoon is expected to be identified [3] [2].

CREATION DESIGN

The creative design emphasizes life observations of the inconveniences and various concerns that may arise from the surrounding. Through creative thinking and application of methods, unique or new ideas are applied to improve and make life more convenient. This is the direction toward which all creative people work for.

This creation resulted from ideas inspired by inconveniences and problems encountered in using stirring spoons. This concept of a washable and re-usable stirring spoon solves issues regarding disposal after use, placing casually, or sharing of spoon. Then again, can this creation meet the expected ideal? Is it easy to use? These need follow-up development and mass production by manufacturers before an evaluation can be given.

DESIGN RESULTS

The spoon clipped on the disposable cup can be used as a stirring spoon and a handle. This solves the problem caused by the non-eco-friendly practice of throwing away after use and other issues. Figure 1 shows the appearance of the innovative product. The new patent application for this creation was reviewed and approved by



the Intellectual Property Office of the Republic of China's Ministry of Economic Affairs (M 465851, 2013/11/21-2023/7/22) (figure 2). Then a poster was designed according to its creative features (figure 3) and submitted to the 2013 International Innovation and Invention Competition (IIC) Poster Contest (12/16), winning the bronze medal (figure 4) and the 2013 Korea Cyber International Genius Inventor Fair (11/23), winning the gold medal (figure 5).



Fig 1: The appearance of the innovative product



Fig 2: Utility patent



Fig 3: Poster design



Fig 4: Bronze medal



Fig 5: Gold medal

CONCLUSIONS

In general, the results for the innovative research and development of this study are summarized and illustrated below:

- (1) The handle of the spoon can be clipped on the edge and bottom of a disposable cup and become its handle.
- (2) The handle of the spoon can be folded, saving storage space.
- (3) The handle of the spoon can be re-used by users, achieving the purpose of environmental protection. The technology required for manufacturing is simple.
- (4) This design can be mass produced. Moreover, online marketing can be used as sales channel.

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