

Saving Energy By Using Hotwater Kit During Cooking

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Abstract: By using a copper pipe of one meter length having 3 mm diameter, two nylon pipes of one meter length to fix on the free ends of copper pipe, a clamp and two screws-a hot water kit is developed and invented to get hot water simultaneously while cooking. On an average a full bucket of hot water can be obtained within 20 minutes. The cost of the kit varies between 250 to 305 INR.

Keywords: Hot water Kit, Copper pipe, Nylon pipes, while cooking, gas stove, burner, cost

I. INTRODUCTION

According to the LPG profile, published by the Petroleum Planning & Analysis Cell, Ministry of Petroleum & Natural Gas (2016), there are 2014.1 lakhs LPG (Liquid Petroleum Gas) customers of which 2017.9 lakhs are domestic and 23.3 lakhs are non-domestic customers in India. According to the same report, nearly 50.5% of the total domestic customers have double bottle connections.

The domestic LPG cylinders are mainly used in kitchen for cooking and to heat water. Rarely used in the bathrooms connected to gas geysers to get hot water for bathing. The non-domestic LPG cylinders are mainly used in Hotels, Industries, Hospitals, Institutions, Hostels and by the vendors for their livelihood.

Honorable Prime Minister of India, Shri Narendra Bhai Modi is having the dream of supplying LPG cylinders even to the families, below the poverty line.

People in the kitchen use single (burner having 8 mm diameter), double (burners having 10mm and 8 mm diameter) or triple (burners having 10 mm, 8 mm and 4.5 mm diameter) gas stoves for cooking and heating the water for bathing, particularly in the morning hours.

To install a gas geyser in the bathrooms, it costs between 2990 to 4824 INR (amazon.in viewed on 14th April 2017) and a separate gas cylinder with accessories.

Keeping all these in mind, the authors invented a small kit based on the principles of gas geyser to get hot water simultaneously while cooking.

II. MATERIALS AND METHODS

The following materials required to get hot water during cooking.

- ✓ Readymade available gas stove with gas cylinder connection
- ✓ Readymade tap connection in the basin
- ✓ One and half meters copper pipe having 3 mm diameter
- ✓ Two nylon/rubber pipes of one meter length to be fitted on the free ends of the copper pipes
- ✓ A small clamp and two screws
- ✓ A bucket to collect hot water

Keeping free, the two ends of copper pipe, the pipe is coiled thrice and in the centre having free size of 8 mm diameter to be fitted on the gas stove burner. The lower free end of the copper pipe is passed through the steel body of the stove and connected to a nylon pipe of one meter length. The upper free end of the copper pipe is fixed on the steel body of the stove by fixing the pipe with a clamp and screws. The upper free end of the copper pipe is connected to the second nylon/rubber pipe. The first nylon/rubber pipe is connected to the tap in the kitchen basin from where the water flows into

the copper coiling and the hot water is collected by the second nylon/rubber tube in the bucket (Figs 1 & 2).

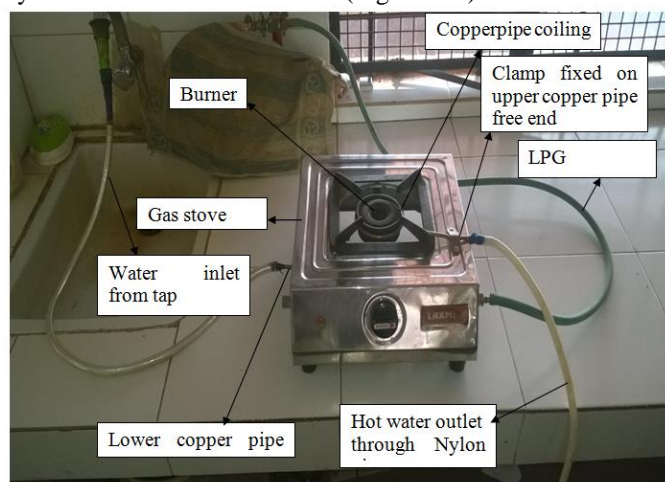


Figure 1

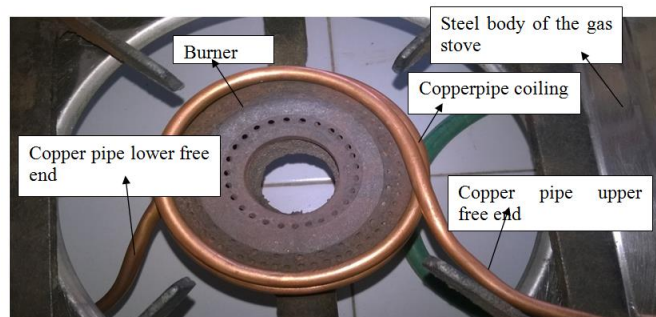


Figure 2

III. RESULTS AND DISCUSSION

The invented hot water kit costs about 250 to 305 INR as detailed below:

Sl.No	Items	Amount in INR
1	One meter copper pipe of 3 mm	180 - 200

	diameter	
2	Two nylon/rubber pipes of one meter length to fixed on the free ends copper pipe	60 - 90
3	A clamp and two screws	10 - 15
	Total	250 - 305

Table 1

Whenever we cook in the kitchen on the gas stove fitted with this invented cheapest hot water kit, we can get hot water simultaneously. On an average, a bucket full of hot water can be collected within 20 minutes....!!!

By cooking and getting hot water simultaneously from a single burner of the gas stove, we can save more than 25% of the energy....!!!

Thus, developed and invented cheapest kit is dedicated to the Society where the individuals can develop such kits to be used in the gas stoves throughout the globe. Since, it is dedicated to the society, this invention cannot be copied/modified commercially by the manufacturers or the industries, without the permission of the first author (inventor).

ACKNOWLEDGMENTS

The authors are grateful to their colleague M. A. Shivalli for his help and cooperation in developing this water heating kit. The authors are also thankful to the students of B.Sc Final year (CBZ) for their active role.

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