

A simple option for an improvised mini stove burner

Ken Lent April 2020

There are many options for a survival stove that may be needed in time of emergency. Here's a quite simple and inexpensive one that anybody can procure without much hassle. It is small, clean & neat, relatively non toxic to use, can be used indoors or outdoors, and is definitely portable. The process involves rigging up a small "stove top" burner using a can of gelled alcohol (Sterno) as the fuel source. The flame is very hot. Carbon monoxide is not a warning issue on the can label. There is a very small hint of alcohol if you bend down close to the flame (which nobody should normally do). Sterno is sold in a two pack for around \$4.50 at discount stores, but some hardware stores will ask over \$8.00 for the same pack, so shop around. Below is a picture of a two pack of Sterno canned alcohol gel on a brick:



Check the camping and sporting good section of discount stores for purchase.

The improvisation of how to make a single burner stove is limited only by ingenuity. There are several possibilities but here's one that works as good as any. By placing the can in-between two bricks and using a small grill top, an instant burner can be set up that will boil water for coffee or tea, fry and egg or two, or reheat some soup. Don't expect to cook up a full course meal with this setup, but for a fast mini burner it works great. The can has been placed on a inverted ceramic dish to insulate against heat on the table and to raise the flame position to be about an inch and a half from a pan bottom.



Unlit and with the top off the gel will look as it appears above.

Before we continue, I took this picture in a low level light room with a camera filter so the reader could see the flame. Here it appears blue but in normal light the flame may be hard to see and may even be invisible after lit if in a bright lighting condition. Be careful to look closely after the can is lit, so as not to get burned.



OK ... back to setting up our stove. Below, a small metal rack is used as the burner platform on which we can lay any type of cooking pan we want. Use what is available or cut a bigger rack down to size.



It's easiest to light the can with a long nozzle butane lighter used in outdoor BBQ grilling, but any match or BIC lighter will do too.



Above a small 2 cup stainless pot with water is being heated for tea.



Our stove has no problem frying an egg in just a few minutes. Burn time is listed at 2hrs per can but I've found that an hour and a half is more like it. If you want a hotter flame for a bigger frying pan use two Sterno cans side by side. (You'll have to buy more cans)

Tips: The flame is extinguished by placing the lid back on. After it's cooled down press the lid tightly on by using both thumbs on opposite sides of the lid. (Pounding it with something can deform the lid and will make an uneven seal) Also, when about $\frac{3}{4}$ of the gel is used up, stir it a bit with a fork to bring it back into proper consistency for lighting. It would be a good idea to stash away 10 - 20 cans for future use.