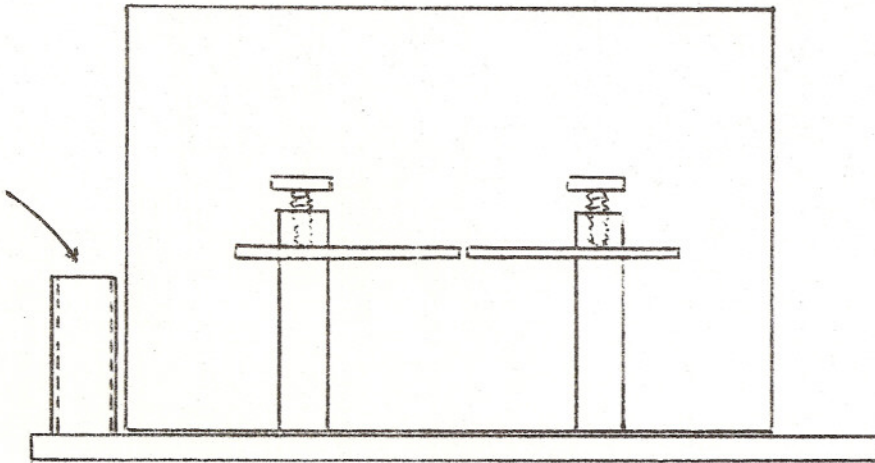


E-4 S-1

Supply of 3/16" diameter  
iron rods 4" long



Welding transformer with secondary  
terminal posts as shown

Use a stepdown transformer (see note) to weld together at their ends two pieces of 3/16" diameter rod. (See WARNINGS.) One terminal post of the secondary is fixed in position, whereas the other one is permitted a slight motion controlled by a spring. The purpose of the spring is to push the ends of the two rods together as they are melted.

Place one rod in the fixed terminal post, with one end approximately midway between the posts, and clamp tightly in position. Place another rod in the slightly movable post and, while compressing the spring as far as possible, clamp tightly in position with the ends of the two rods touching.

With the control switch in the off position, connect the apparatus to the 120 VAC line. Turn the switch on (see WARNING 1) and leave on until the rods acquire a good white heat. As the material melts the spring pushes the two rods together so that they fuse. Turn off the current as soon as the spring pushes the melted rods together.

Note: The transformer has a turn ratio of roughly 30 to 1. The current in the secondary is roughly 350 amperes.

WARNINGS: (1) The apparatus is designed only for a short duty cycle. Turn it off as soon as the material has been melted to such an extent that the spring pushes the two rods together. (2) Leave your watch in your office, or at least far from the apparatus.