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Fireplace Heat Saver

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FIREPLACE HEAT SAVER

Submitted to

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Indiana University-Purdue University at Fort Wayne

By

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Fort Wayne, Indiana

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ABSTRACT

The current energy crisis has driven people to maximize the heating efficiencies of their fireplaces. Currently available equipment manages to add very small heat gains and they generally detract from the appearance of the fireplace. The Fireplace Heat Saver adds 3000 BTU per hour to a room, and is invisible when installed. The Heat Saver has two main components, the fan and the tube assembly. The fan is a Pamotor 7600S unit which moves 20 cubic feet of air per minute through the tube assembly. The tube assembly, a continuous loop, fits into the top of the fire box chamber. A full scale, working prototype of the Heat Saver was assembled in the designer's home in Grabill, Indiana. The two-inch .090 wall thickness boiler tubing was bent at National Tube Form Company, Fort Wayne, Indiana. The Heat Saver was tested for BTU output, constant temperature output, and noise. ~~BTU output was 3000 BTU per hour.~~ Constant temperature output was achieved up to 1500 BTU per hour and noise level was 54 dB (A) scale. Prototype cost was approximately \$200.

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