

*Christina Watkins holds a railroad lantern converted to battery power to illuminate a scene in Anatomy of Gray, at the University of Evansville.*

# Light it up

*Battery-powered lanterns and candles set scenes aglow, safely*

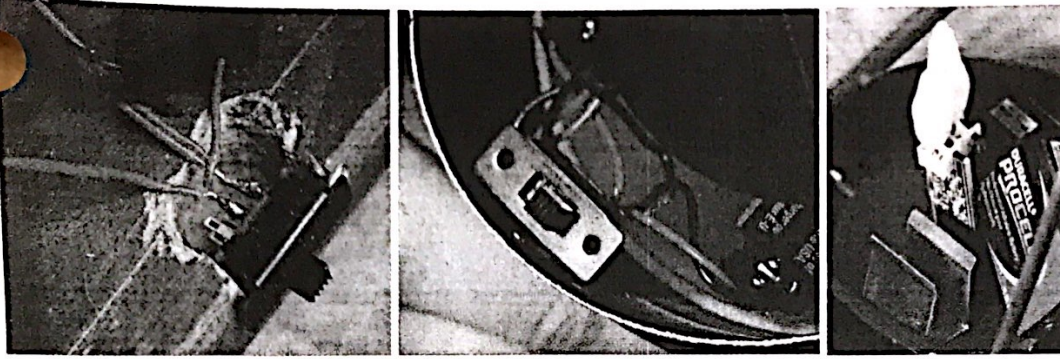
BY CHUCK MEACHAM

ONE OF THE MOST COMMON special effects needed in theatre productions is a representation of flame. For safety reasons, a live flame is not usually an option, so we find ourselves trying to replicate fire onstage through some artificial means. There are countless forms of fire effects. In this article we'll focus on some simple ones that turn up very frequently in plays: candle and lantern effects designed to be handheld by actors.

Prop candles and lanterns must be portable, lightweight, and easy for an actor to switch on and off without being observed doing so by the audience. The best way to meet these requirements is to use battery-powered flashlight bulbs or flicker candle units. Battery-operated flicker candles from theatrical suppliers can be superior to flashlight bulbs or holiday candles in that they output

enough light to be seen even when competing with theatrical lighting onstage. Most often candles or lanterns onstage don't actually light the scene. Rather, they provide the motivation for a lighting design that creates a plausible, but somewhat brighter, representation of the illumination cast by the flame source.

The trick with simulating a flame on stage is similar to any natural effect: when it's real, it's random. There are several versions of flicker bulbs available that emulate the unpatterned oscillation of a candle flame. A brand that I've had recent and satisfactory experience with on a show is SafeFlame (<http://www.vizear.com/SafeFlame.htm>). This flicker unit is controlled by a tiny circuit board and is powered by used (that is, partially drained) 9v batteries, which most of us have lying around from our fleet of



*From left: Typical wiring to a switch concealed in the wooden base of a lantern. This unit uses two flicker bulb circuits, both wired through a single switch.*

*Switch recessed in the base of a metal lantern is concealed, but easy for an actor to operate.*

*Two flicker bulb units installed in a lantern. Clips keep the 9v batteries from rattling around.*

wireless microphones. Another attractive feature: it uses low wattage L.E.D. bulbs, which will not drain batteries as quickly as tungsten bulbs.

Prop lanterns can be shopped at home furnishing stores like Pier 1 Imports and similar places, where you'll find both contemporary decorative items and replicas of classic kerosene railroad lanterns. I've also had good luck at Big Lots. What you're looking for in a lantern or a candlestick is a hollow base (or a base that can be hollowed out) to accommodate and conceal the battery and switch.

This is generally easy with lanterns. Candles and candle holders can be a little more tricky. If a big column-type candle is consistent with the design of your show, you can bore out the entire candle—some of them are three inches in diameter—and conceal the batteries and switch unit inside. For a thinner taper-style candle, you can use a piece of PVC (which makes the wiring easy) and conceal the battery and switch in a candle holder base. You don't need much space: a 9v battery is only about two inches long and a half-inch thick, and the switch unit is even smaller.

The bulb unit needs to be attached firmly in the position of the candle or lantern flame. From there, two wire leads run to the base of the unit, concealed within the lantern or candle. Wire one of the two wire leads through a switch before continuing on to one contact of the battery. The other lead can be wired directly to the battery. Only one leg of the power needs to be interrupted by the switch for it to work properly. Small toggle or slide switches (available at Radio Shack) work best and can be easily mounted in and concealed by the base of the unit.

If you're using 9v batteries, it's a good idea to purchase clips to hold the battery in place and snap-on leads to facilitate easy battery changing. Depending on your situation you may find that two lighting elements used in combination may be necessary to provide enough illumination for the candle to be seen through other stage light.

Since a lantern flame, usually protected from air currents by a glass globe, generally burns a lot more steadily than a candle, you may prefer to use a flashlight bulb and two AA batteries instead of a flicker bulb in a lantern. The globe can be fogged with hairspray or with a piece of frosted gel taped to the glass.

A few general recommendations:

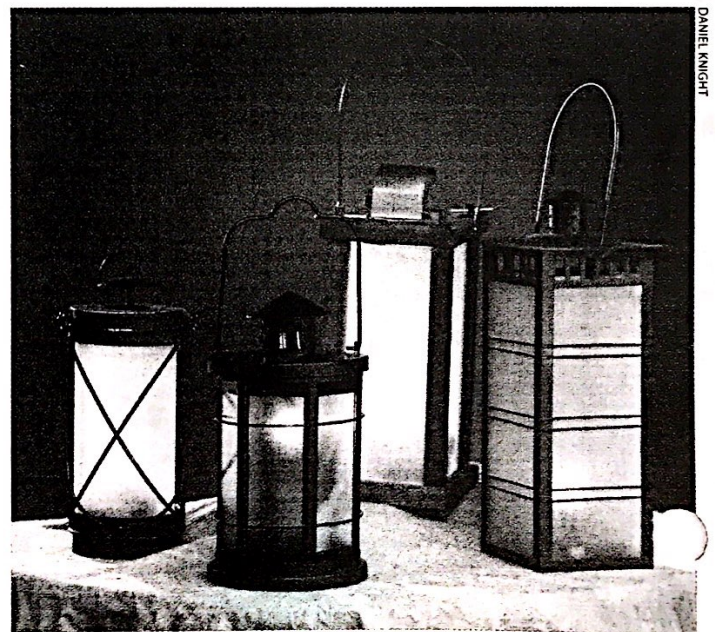
- Build lantern or candle units to last. They get a lot of

handling by actors and need to be sturdy. When possible, replace the glass in a lantern with suitable acrylic or lighting gel.

- Plan where all the parts will go. Before selecting a unit to adapt or deciding how to build one from scratch, make sure you have enough room to put all the parts (battery, leads, lighting element, and switch) and to attach the switch in a location on the unit that will be hidden from the audience but still easily accessible to the actor.

- Make the wiring durable. Where possible, I recommend soldering the wiring connections. If you don't have time for soldering (or if nobody in your shop is handy with a soldering gun), at least use wire nuts for all of the connections. It is especially important on units with a metal housing to make sure all bare wire is well insulated against touching other leads or the housing of the lantern itself and creating a short circuit.

I hope I have made this one form of stage fire a bit easier to understand and achieve. Give it a try. You don't need to wait until you need thirty lanterns for a show that is a week away from opening. Wire one up now. There is a show just about every season in which you can use it. ▼



*A variety of prop lanterns fabricated by the author's students.*