# CARL & JERRY

By John T. Frye W9EGV

"Dog Teaches Boy"
from the February, 1959
*Popular Electronics*

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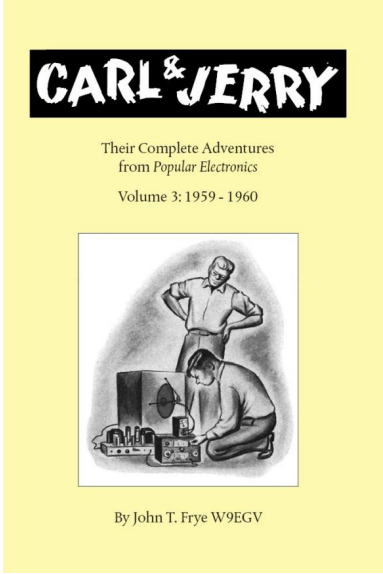


This story has been excerpted from *Carl & Jerry, Their Complete Adventures, Volume 3*. The print book contains 24 stories, originally published in *Popular Electronics* from January 1959 through December 1960. Printed books may be ordered through Lulu.com at the following URL:

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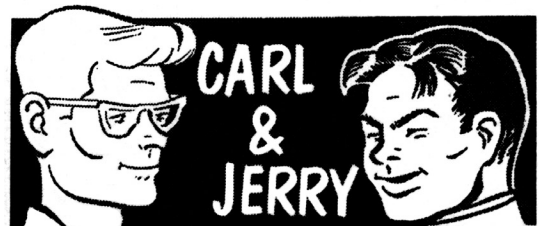
## DOG TEACHES BOY




**February 1959**

Carl looked puzzled as he examined the strange object resting on the workbench in his basement laboratory. His pal, Jerry, watched him with a broad grin. The object was a sort of wooden box with one glass side. It was about ten inches wide, two feet long, and a foot high.

Through the glass side of the box, two orderly rows of large spike nails could be seen sticking up from a board in the bottom. The spikes were spaced about two inches apart in each row, and the rows were approximately four inches apart. At each end of the board, fastened to the bottom of the box, was a porcelain lamp socket holding a small round red lamp. The side opposite the glass window was hinged at the bottom so that the box could be opened, and a heavy electrical cord went into the box at the upper right-hand corner of this hinged cover.

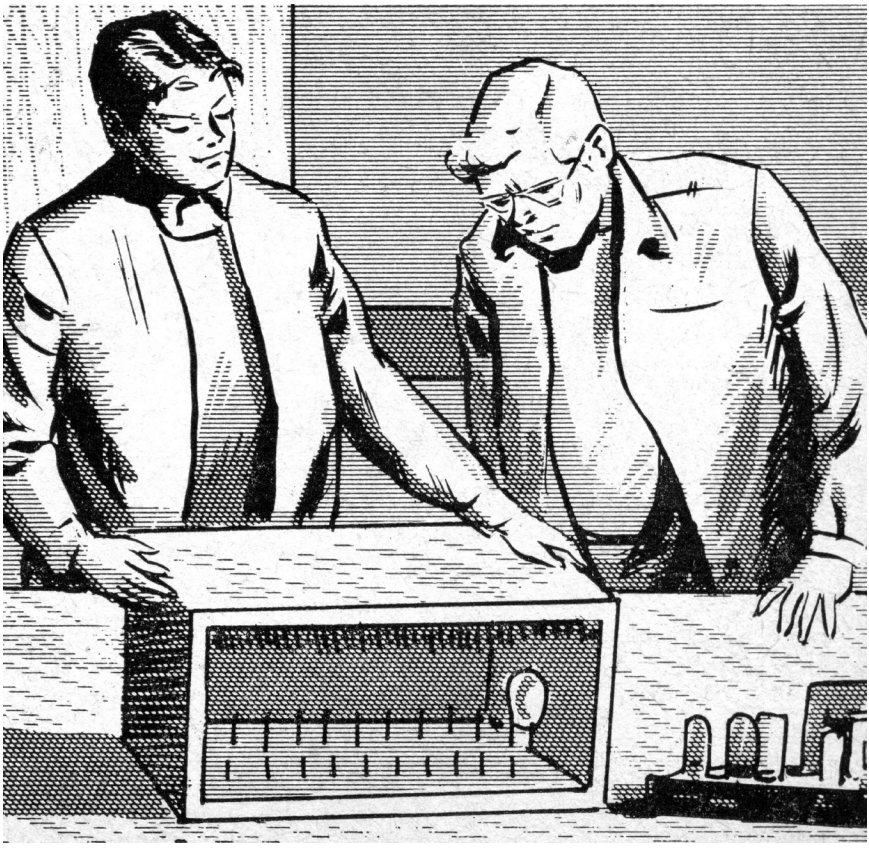
"Okay, what is it?" Carl finally asked.

"It's an electrocution chamber for dogs," Jerry announced with a teasing smile.

Carl shot him a withering look. "I suppose that bed of nails is to make the dog comfortable while he's being electrocuted," he said scornfully. "Quit clowning and tell me what it really is."

"I *did* tell you," Jerry insisted, as he opened a package of wieners. "Here's the scoop: Mom is chairman of the food committee for the meeting of her Sunday School class at the church tonight. They intended to serve hot dogs broiled in the gas ovens of the church kitchen, but the cold weather has broken a gas line running into the church, and it can't be repaired until tomorrow.

"Then I happened to remember seeing a gadget that cooked hot dogs by passing 117-volt house current through them. So I experimented with a single hot dog at a time until I found several



things *not* to do; then I built up this affair that will cook ten of them at once. You're just in time to see it checked out."

"What sort of things did you find out not to do?" Carl wanted to know.

"Well, I started out using galvanized nails. They worked all right, but they left a disagreeable taste at the points where they pierced the dogs. I think some sort of electrolytic action took place . . . the taste was very much like brimstone. When Pop heard about this, he cracked that since it was to be a church affair a little taste of brimstone might not be a bad idea, especially for a couple of gossips he knew in that class. You should have seen the look Mom gave him. It would have cooked several pounds of hot dogs. Anyway, these un-coated nails leave no taste."

As he talked, Jerry was carefully fastening the wieners to the nails by thrusting opposite spikes in the two rows through the ends. "The nails should go through as close to the ends as possible without

splitting out because the dog is cooked by current passing between the nails," he explained.

"What are the little red bulbs for?"

"Mostly atmosphere. Of course, they also serve as pilot lamps to indicate when the current is on, but relying on a voltage-indicating pilot lamp is dangerous. It's too likely to burn out and fail to give warning that the voltage is present. But you will notice that this heavy-duty plug mounted up here in the corner of the box has two heavy leads that go down through the board and are connected to two copper strips soldered to the heads of each row of spikes. The plug matches up with this socket, which is fastened to the door so that only when the door is entirely closed does the plug engage the socket and apply voltage across the two rows of spikes and the two lamps."

"Wouldn't a simple microswitch in one lead work just as well?" Carl asked.

"You know better than that. In the first place, this gadget will be operated in the church basement, which has a cement floor. You know that one of the two wires ordinarily bringing current into the house is grounded while the other is 'hot.' If you stand on the ground and touch that single hot wire, you can electrocute yourself.

"It may take two to tango, but never forget it takes only one wire to electrocute you if you're standing on the ground or touching anything grounded, such as a gas or water pipe, a radiator, or a bathroom fixture. A switch that opens only one wire of a device has a fifty-fifty chance of opening the ground lead instead of the hot lead. That's like playing Russian roulette with a six-gun with three loaded cylinders. Now I'll show you another reason for not using an ordinary switch.

As he said this, Jerry plugged the dog-roaster into a panel with an a.c. ammeter. The two bulbs in the box lit up, and the ammeter pointer swung over to indicate six amperes of current.

"Hey, nothing's happening," Carl remarked.

"Oh, yes, it is; just keep watching."

The ammeter needle gradually crept over. When it reached about twelve amperes, the hot dogs showed signs of heat. They smoked a bit and began to sizzle. Their skins started to swell and grease dropped from them. The current went up to sixteen amperes. In only about a minute and a half, Jerry pulled the plug.

"That sixteen amperes of current is too much for an ordinary Microswitch," he explained, opening the door and handing Carl a still-smoking wiener. "Each dog takes about an ampere-and-a-half of peak current; so ten dogs are about all that can be cooked at one time from an ordinary wall socket. How does that taste?"

"Not bad, not bad at all!" Carl approved as he reached for another. "It really seems to be thoroughly cooked all the way through. Why do you think the current goes up that way?"

"I don't know exactly, but I know what it makes me think of. I've been boning up recently on precautions to be observed in working with electricity, and I found out several things I didn't know before. One is that human skin offers the best protection against electrocution from low voltage sources. While human skin varies widely, the average dry skin presents a resistance of about 90,000 ohms per square centimeter. When the skin is wet with water or sweat, it drops to around 900 ohms. That's just the epidermis. The dermis has practically no resistance at all. I've been told that six volts are enough to cause fatal shock if the electrodes are thrust beneath the skin."

"It's really the current that does the dirty work, isn't it?"

"Right! But how much current do you suppose it takes to cause death?" Jerry inquired.

"Just a few amperes, I'd guess."

"You're wrong—a thousand *times* wrong! Only 15 to 25 *milliamperes* of current are enough to destroy your muscular control and render you incapable of releasing your grasp of the wire or gadget that's killing you. The current soon causes the skin to blister, and that deprives you of its insulation. Then, with the inner skin offering no resistance to the current, it rises rapidly, just as it does in those hot dogs. Ventricular fibrillation, or electrically produced heart spasm, can occur at between 75 and 100 ma., and then you've had it."

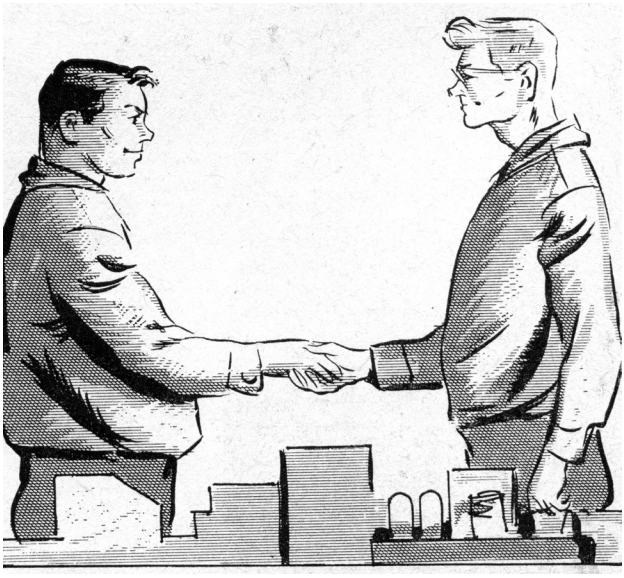
Carl shivered. "Not a very pretty picture," he commented, "but what started you on this safety kick?"

"I just got to thinking that we're probably going to be working with electricity for the rest of our lives, and it's plain stupid not to be well informed on its dangers. That would be like a laboratory technician not understanding how to handle deadly microbes or an auto mechanic being ignorant of carbon monoxide poisoning.

"People think 117-volt house current is too low to be dangerous, but many of them have discovered that they were dead wrong; and I use the word *dead* deliberately. More people are electrocuted by house voltage than by any other source. Naturally, one reason for this is the widespread use of this particular voltage; but another reason is that folks don't have the respect for this voltage that they should. People working with higher voltage are usually specially trained to take careful precautions, and they take them; but any dope can stick his finger into an electrical socket to see if it's turned on and to show others how much electricity he can take. He's the guy who will tell you: 'Aw, 110 can't hurt you.'"

"You won't catch me doing anything as stupid as that," Carl promised. "I don't think I'll ever bite another hot dog without thinking about the sight of these having the grease fried out of them with 117 volts."

"Good!" Jerry exclaimed. "Now what do you say to this idea? Suppose we agree to watch each other carefully for any careless



or dangerous practices. Let's never be in so great a rush to see how an electrical gadget is going to work that we skimp on safety measures. Let's try to make every electrical device we put together as nearly foolproof as possible, just as I did with this dog-roaster. Let's not depend on our being careful and alert. There will be times when we'll be excited or in a hurry and may forget to check a switch or pull a plug. Let's see to it that we always protect ourselves from our own carelessness. Is that okay?"

Carl's sinewy fingers wrapped themselves around Jerry's pudgy hand. "It's a deal," he solemnly agreed. "You watch me, and I'll watch you; and the first one who gets careless receives forty lashes with a wet noodle. Say, who's going to operate this dog-burner at the party tonight?"

"I am. Want to come along?"

"Yep. Wait a minute. I'll be right back."

This last sentence was cut off by the slamming basement door as Carl took the outside steps two at a time. In a couple of minutes he strode back into the laboratory. On top of his head was a huge mushroom-shaped chef's hat that nearly brushed the low ceiling, and his lean frame was wrapped in a snowy white apron that had "Chef" printed on the front in big letters.

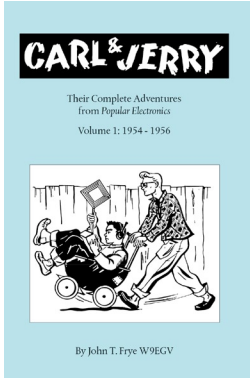
"My uncle sent me this for Christmas, and I've been thinking I'd have to wait for next summer's barbecues to try it out," he explained. "Now I won't. How do I look? Pretty sharp, huh?"

"I'm not sure that's the word, but you look different, anyway. All I can think of are those white-crested cranes we used to see standing

along the river bank when we were fishing last summer. But you wear that getup, and we'll give these poor little dogies a real send-off on their last round-up."

"Eet weel be my plaizhure, M'sieu," Carl said in an atrocious French accent, as he drew himself to his full height and saluted smartly. -30-

# Carl & Jerry Books from Copperwood Press

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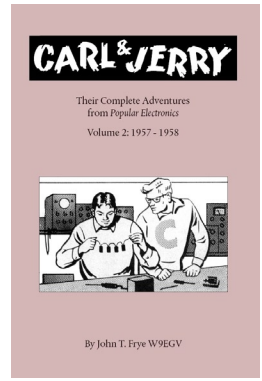


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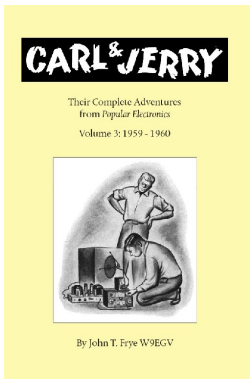


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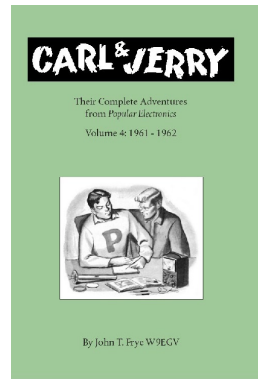


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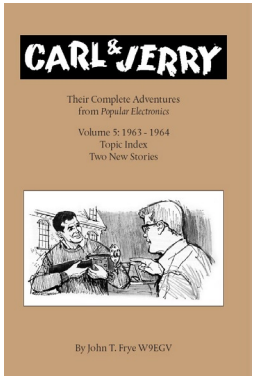


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