



David Weaver at work. He's working to learn the Renaissance technique of painting.

and powder, prints could be smeared," Dr. Rau explains. "We gave a little more than \$80,000 to assist 3M Company in marketing David's wand, and I think the federal government, and state and local agencies got quite a deal. The wand allows for far more prints of better quality. That's what I mean by revolutionary."

Weaver says the idea for the vapor wand grew out of his dreams, literally.

"I had this dream where I walked into a room at a crime scene and all the fingerprints glowed. That dream stayed with me for days and I thought, wouldn't it be great if we could actually do that.

"So I began work on the chemical side of it. Over 100 latent chemical residues are deposited when people touch something: minerals, lipids, salts, amino acids and riboflavin, all this wonderful chemistry. I wanted a way to combine superglue, which had come out in 1981 in the U.S., with a color to make it fluoresce or luminesce. And I needed a way to get it to the crime scene. After six years, I had the vapor wand," he says.

"During that time, I petitioned the

federal government for research funding. Bringing in 500 different dyes with different molecular weights and different fluorescent spectrums was expensive. Crime labs were really behind my efforts and the federal government also wanted it to work. So I assigned the vapor wand patent to the state of Alaska and they turned it over to the 3M Company which sold 100,000 units in the first month. It's now used all over America and in numerous foreign countries. Unfortunately, there are now many knock offs of my product on the market.

"The vapor wand itself is a simple torch. The exhaust from the torch passes through a sublimation chamber which means the superglue is a secured polymer. The solid inside the cartridge transfers to a vapor with no liquid phase. As the exhaust gasses pass through the torch and regulate its temperature, all these little molecules float through the air looking for anything with extra molecules sticking out, like amino acids and oils that superglue needs to initiate configuration. And once the first molecule of superglue is polymerized, then a long chain of mol-

ecules is built," Weaver explains.

The process is instantaneous. "Within three seconds, there are fluorescent fingerprints that can be viewed with amplification. You can do each print individually or do the entire room. We pushed for ultraviolet light because it's a cheap light source, readily available. For \$150, you can get a great 500 watt UV light, as opposed to a \$20,000 laser, which is state of the art in most crime labs but not practical for the field use of the average police officer."

Weaver's career in crime fighting began when he took a job as dispatcher for the Travis County Sheriff's Department in Austin, Texas, to cover the costs of his art studies. Within one year, he was in charge of 24 people, and had begun forensic training where he quickly excelled in composite art, facial reconstruction and crime scene investigation. But even while he was taking related classes at the dental school at the University of Texas, he continued art studies with master realist Dalhard Windburg, and at the Laguna Gloria Art Museum and the Daugherty Cultural Art Center.