

The Sun Shines on Vet Smith

By Lauren Podesta

"You're paying for my time, so I might as well not waste it," says Dr. Michael Smith with a smile, when a customer remarks at the doctor's quick work. The customer brought in his Siberian Husky, Ranger, with mouth and tongue filled with porcupine quills. Dr. Smith, an attractive young veterinarian put the dog under an anesthetic and removed about 30 quills in ten minutes.

When Ranger and company left the office, Dr. Smith showed me around the Trout Brook Veterinary Clinic located on 1 Ames Road, in Canton. What natural beauty! Dr. Smith designed the interior of the double-shed-roof clinic with light cedar walls, greenhouse-reception room, kennel and wooden signs labelling the prep. room, laboratory, rest room and two examining rooms. The second story contains an office, laundry area, and beautiful three room apartment. Dr. Smith explained that he "rents" these upstairs rooms to one boarder who, instead of paying, assists the doctor with his work. The boarder must work on weekends and holidays, including Christmas, but in return, Smith says, "I can help find them a place to work and or study when they are ready." Presently, Dr. Smith seeks a boarder.

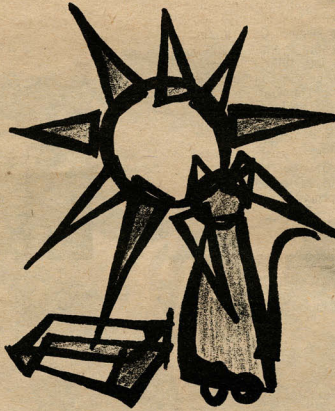
Besides being an attractive setting, the clinic has another notable feature. It is one of only two buildings in this area that is heated entirely by solar energy. In a 1979 issue of *Better Homes and Gardens*, Dr. Smith came across an article on the Tom Smith house in California which is solar heated. Since, Dr. Smith had to move anyway, he read further on the subject and decided a solarheated clinic would be feasible here in Canton.

One year ago, he opened his clinic and has been reaping the "solar benefits" ever since. Conveniently, the doctor, his wife, and their children live in a private home right next door.

Dr. Smith uses the Envelope System, which is more complex and efficient than Passive Solar Heating. In this system, the solar-temperated air flows in a gravity convention loop which acts as a buffer between the outside weather and the internal house conditions. This second layer or plenum is found only in the Envelope System. It acts as a sort of blanket around the entire house, eliminating bothersome draughts. The heat-transfer envelope is made up of South-facing greenhouse, stone and gravel floor basement and 18" wide plenums.

During the day, heat is collected through the large windows in the two-story greenhouse: clerestory on top, 60 degree angled middle windows, and big sliding doors on the first level. As the room heats up, the envelope air begins to rise. When it reaches the cool north air, the heat loss allows gravity to draw the convention loop down to the basement. The heat is stored in the dirt and rock floor of the basement, until it is warm enough to rise back to the greenhouse. Thus, one cycle is completed. The plants in the greenhouse create needed humidity and cut down the animal odors. When the greenhouse reaches 70 degrees, the doors connecting it to the rear of the building are opened, causing the warm air to flow within. Instead of a thermostat, then, he uses the sliding doors to control the heat.

At night, the process reverses. The greenhouse air turns cooler so it moves down to the basement. The rocks and dirt, which retain and store heat, warm the arriving air, sending it up to the north wall where it cools off and flows down to the greenhouse. As this process continues, the air warms.



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When the clinic becomes too warm, Smith lowers the greenhouse window-shades and opens the glass doors, creating a quick surge of cool air throughout the building.

The key to the efficiency of this solar clinic is insulation. The floors are insulated with fiberglass batts, inner and outer walls sandwich airflow space, the foundation and basement are laden with urethane foam and the envelope acts as a heat modifier from outside to inside. As well the greenhouse doors

which lead outside are double-glazed and they each contain a separate storm door. To help matters along, Dr. Smith uses the heat and humidity from the clothes dryer by exhausting into the North wall plenum rather than outside, in order to warm that cool area.

When I asked Dr. Smith why so few North Country dwellers have converted to solar-heating, he said, "They don't realize how well it will work so they resist the idea." He also thinks people may see it as being too expensive. Says

Smith, "There are short-term expenses, but long-term savings!"

Last winter, for example, Smith spent under \$50.00 to heat his clinic. He purchased three cords of wood for his stove at \$16 a piece. And that was it!

Says Smith, when describing his first year in the new clinic, "This is the best thing that could have happened." He enjoys his work as much as his surroundings, often coming in at 5:30 a.m. and not leaving until 10 p.m. except for two short breaks. And he is busy the whole time. Anne, his assistant, answers an almost continuously ringing phone, while Dr. Smith de-horns two 3-day-old goats. Next he checks on Barbi, a sickly one-day-old-calf. The doctor says Barbi can go home to twin sister, Betty, as long as she stays on anti-biotics. So, a happy owner carries the calf to his car in a sack.

Between check-ups, Dr. Smith tells me that he was born and raised in Canton. He only left during his college days at which time he studied at Colgate University, undergraduate, and then studied Veterinary Medicine at Cornell University.

As we walk out to the greenhouse-waiting room to discover two dogs and one cat in need of attention, I take my leave. Dr. Smith walks me to the door reminding me that, "the apartment upstairs needs a tenant if you know of anyone interested in working as a Veterinary Assistant. It's basically informal here; they would eat with us, and we would do our laundry up in their apartment. But, it's a good deal."