Yes, Dear

A vocal wife and a long-suffering husband

by Dan Taglia • Eureka Springs, Arkansas, USA • Photos by the author

I've been building automata for over twenty years, primarily using kits, but in the last couple of years I've developed my own design. It's now in the final stages of completion and I'm sharing it with others because many of my projects tend to remain unfinished.

The piece is called *Yes, Dear* and is dedicated to my father, who reluctantly but passively listened to my mother's endless chatter. "Yes, Dear" was often heard in our Italian household, typically from the husband. What's in his glass is up to your imagination; for my father, it was red wine.

One of my favorite aspects of automata making is depicting the characters. I'm fascinated by how the mechanics bring them to life. However, I face challenges in making the characters visually appealing for the story I want to convey. Some look surprisingly realistic, while others are corny representations. I enjoy both styles, as they carry their own messages, yet I still find it difficult to create them.

A few years ago, I attended an annual woodworking show in Mountain Home, Arkansas, mainly to explore the local talent after relocating from Texas. I saw various turned bowls and vases, cutting boards, and some abstract pieces, but I was particularly intrigued by the carving of human figures—full bodies, busts, and just heads. I imagined how fantastic it would be to have such carvings for my automata. However, I lacked the skills or desire to learn how to carve.

I approached several artists at the show who specialized in this type of work (**photo 1**) and inquired about custom projects. When they asked what I wanted—a head, full upper body, or full body—I admitted I wasn't certain but just wanted to know if they could do it and the approximate cost.

While some quotes were quite high, several artists were willing to accept lower compensation, seeing it as a challenge, an opportunity for practice,

Yes, Dear portrays a ceaselessly speaking woman and a husband who has heard enough.

1. Examples of the work of local artists. Keith Rumohr did the two large carvings, while the three small ones are the work of Paul H. Baumann lll.

2. The woman's mouth moves, her head nods, and she raises and lowers her arms.

3. The scotch yoke, at the left, with the irregular drive wheel, controls the woman's head, while the eccentric cam at the right raises and lowers her arms.

and a chance to see their creations come to life in an animated piece like mine. When I mentioned that I could provide a real photograph or illustration as a reference, they were excited about the challenge. I eventually found an artist, Keith Rumohr, who could create what I needed at a reasonable price, and I purchased some of his work.

Perhaps you can find a local artist to assist you, as collaboration can alleviate some of the stress of creative challenges. This is a win-win situation for both wood carvers and automaton creators. It's rare to find someone who possesses all the required talents—carving, painting, and mechanical skills—in one person.

Yes, Dear is currently in the not-quite-finished stage. I chose to write about it in this awkward phase because it's often during this time that we discover new solutions to old problems and brainstorm innovative ideas that hadn't occurred to us before.

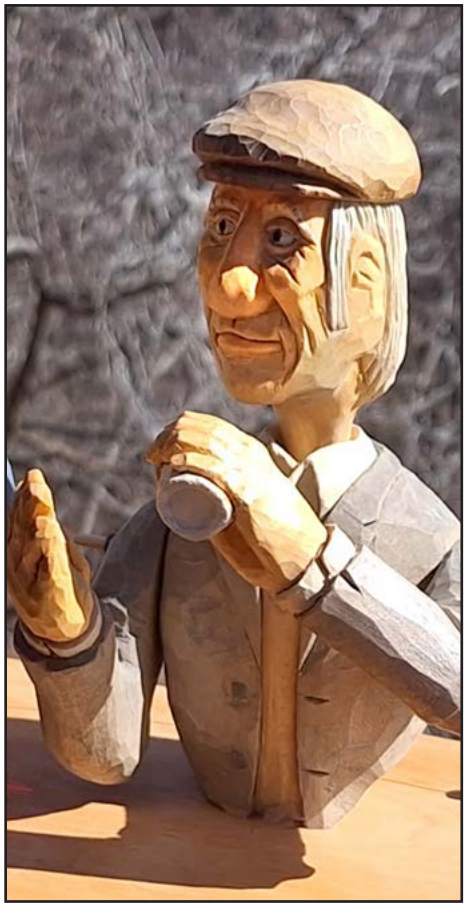
Since construction isn't complete and I may need to disassemble some parts again, I hope to share methods that could assist others. I welcome suggestions and comments on improvements, as I remain open to changes and additions. You can reach me at *Robotman52@yahoo.com*

Actions needed for *Yes, Dear*

Woman (**photo 2**): The woman's mouth needed to open and close to simulate chattering. Her head and mouth motions are controlled by a scotch yoke. Her arms move via an eccentric cam (**photo 3**). A rod attached to the back of her head by a wire link tilts it back and forth. Her jaw vibrates up and down because it is loose in the neck cavity.

The woman's hands and arms also needed to move up and down. A rod on the cam follower is attached to her left arm by a link (**photo 4**). This rod actuates both arms, as they are mounted on the same axle

4. Control rods are connected to her body by wire links.



5. The man raises a glass with one arm while his head turns and his other arm is alternately raised in disbelief.

6. The man's head turns from side to side, controlled by the two eccentric cams below his body.

7. Strings are tied to the crankpins on the wooden discs. As the discs revolve, the strings move the man's arms.

8. Strings are fed through eyelets in the top of the box to the man's arms.

9. This gear train, powered by the worm in the center, operates the man's motions. The two cams above the worm work his head, while the gears below turn the two shafts with the discs, which, through the use of strings, control his arms.

through her body. The connecting rod between her arms is hidden in her body, as her arms are glued as a single unit and move up and down in unison.

The man: As the glass in the man's left hand approaches his lips, his right hand had to move down (**photo 5**), while his head moves left and right (**photo 6**). Control of his arms was achieved with two crankpins on rotating wooden discs (**photo 7**). His left and right arms had to alternate in their movement. The right arm rises to his head in a "disbelief" gesture; the left arm brings the glass of wine to his mouth, while his head turns toward the woman.

I used string to operate

10. The box is held together temporarily during construction by the protruding dowel pegs. Collars with set screws help to locate the various shafts.

the man's arms due to space limitations, which created an interesting visual approach. For efficient movement, I needed about 2" (50mm) of distance provided by the levers that raise and lower the man's arms. Therefore, the distance from the center of the disc to the protruding peg, or crankpin, to which the string is loosely attached, is 1" (25mm). The strings pass from the crankpins through eyelets in the box to the man's arms (**photo 8**).

The crankshaft includes a worm gear for the man, which engages a perpendicular 20-tooth gear below it to control his arm movements (**photo 9**). The gear above the worm operates the cams that move his head.

The frame

Photo 10 shows the box and mechanism. To facilitate extensive trial-and-error testing, I designed the box to be easily disassembled simply by pulling out the dowel pegs. Metal collars are used to stabilize the shafts and prevent their longitudinal movement, yet they can be easily removed for improvements and adjustments. The dowel pegs will be removed later, after testing and once the frame is glued. Collars will ultimately be replaced with wooden spacers.

I've considered adding a fly that moves across the table or circles above the characters, or perhaps a moon that races across a backdrop to suggest that the woman's endless chatter will truly never cease. A1.

Links

Watch *Yes, Dear* in action here:
https://www.youtube.com/watch?v=JOxqblqcoKw
To see all of this issue's videos in one place, *click here.*