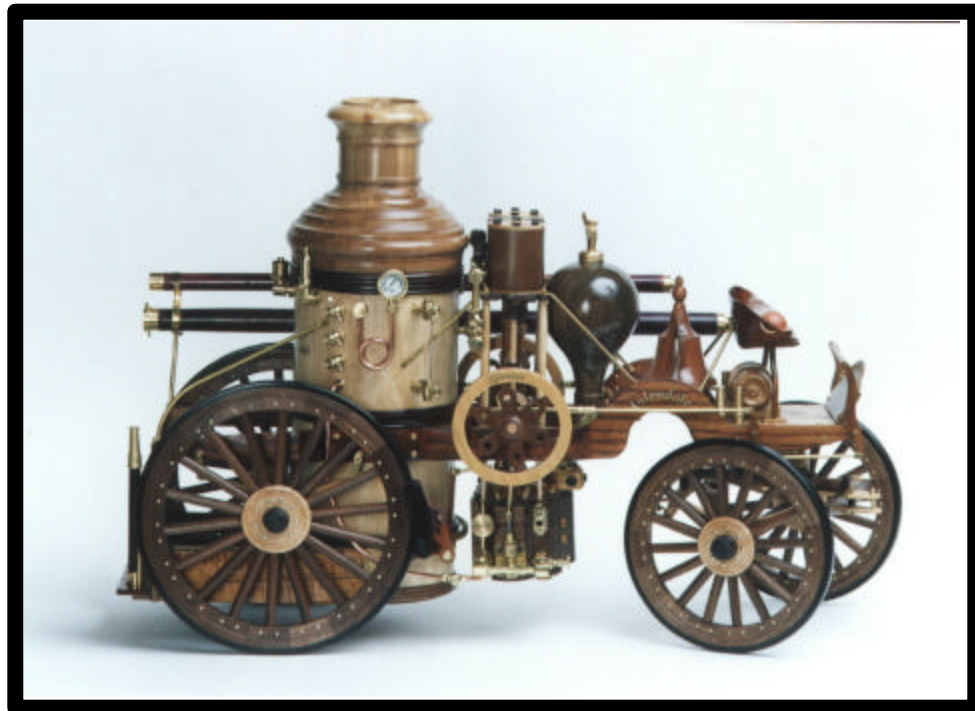


The Glendale Woodturners Guild



*Vintage American-LaFrance
Model Steam Fire Engine*

Creation Accounts & Anecdotes



PROJECT STORY LINE

October 1999 GWG MeetingStarted to think about collaboration project
November GWG MeetingSolicited candidates:

- Covered Wagon
- Light House
- Antique Indy 500 Car
- Antique Steam Fire Engine
- Coffee and Tea Service with Cups and Saucers

December 1999 GWG MeetingSelected Steam Pumper Fire Engine
January 2000..... Found and purchased drawings at Cole's in Ventura
Returned to Cole's for pictures and information
February – March.....Sought and made subassembly assignments
 Created initial prototype parts
April..... Full swing parts production
MayFinished making remaining parts
Started fire engine assembly
 Fabricated shipping box
May 25.....Completed fire engine assembly and packed in shipping box
May 26 & 27Exhibited at Old Pasadena Fest Art Show
May 28.....Started across U.S.A. in travel trailer
June 28.....Arrived safely in Charlotte, NC
June 30 – July 2Shown at AAW Symposium

- Entered Collaboration Challenge
- Won First Place
- Bought at auction by Ron Gerton of Washington state

July Returned to California in travel trailer
August Displayed at GWG meeting
September .Ron Gerton attended GWG meeting and picked up fire engine
October..... Prepared this project account
November 2000, Thanksgiving Given as early Christmas gift

The American-LaFrance Steam Fire Engine was given by Ron Gerton to his father, Myron P. Gerton, a former fire chief of the Rocky Mountain Arsenal in Denver, Colorado

THE CONTEST

The American Association of Woodturners (AAW)
Holds an annual symposium at alternating locations in the U.S.

The 2000 AAW Symposium was held in
Charlotte, North Carolina
June 30 – July 2

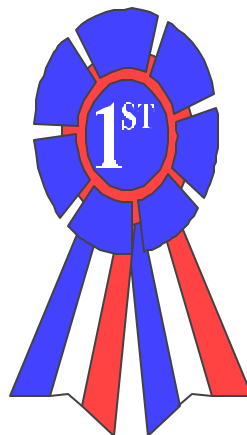
One Feature of the AAW Symposium is a Chapter Collaboration Challenge

The 2000 Chapter Collaboration Challenge requirements were:

- At least six chapter members participate
- Each participant's name be signed or displayed
- Must fit inside a two foot cube
- Does not exceed 25 pounds

There were 25 American Association of Woodturners chapters from across the U.S. who created and entered collaboration pieces in the contest.

First Place Award
The Glendale Woodturners
Guild
1902 American-LaFrance
Steam Fire Engine



THE TEAM

**The GWG American-LaFrance Steam Fire Engine
Project Team**

Project Lead – Bob Barnes

Project Assembly Captain – Bill Kelly

Other Participants:

- Jim Belknap
- Don Comer
- Cal Elshoff
- Bill Haskell
- Linda Hovenden
- Joe Larsson
- Bill Nelson
- Walt Rizkowsky
- Amos Thompson
- Pete Carta
- Bob DeVoe
- Mel Foncannon
- David Holzberger
- Michael Kane
- Dick Lukes
- Bill Noble
- Damon Siples
- Curtis Thompson

***“20 Outstanding Collaborators, Fine
Woodturners and Superb Craftsmen”***

THE WOODS & MATERIALS USED

Woods

- Alder
- Ash
- Baltic Birch Plywood
- Basswood
- Black Walnut
- Bloodwood
- Birch
- Carob
- Cedar
- Cherry
- Claro Walnut
- Gabon (Black) Ebony
- Ironwood
- Koa
- Lauan
- Lignum Vitae
- Macassar Ebony
- Mahogany
- Maple
- Mesquite
- Mulberry
- Oak
- Olive
- Padauk
- Pear
- Purple Heart
- Rosewood

“27 Fine Hardwoods Employed”

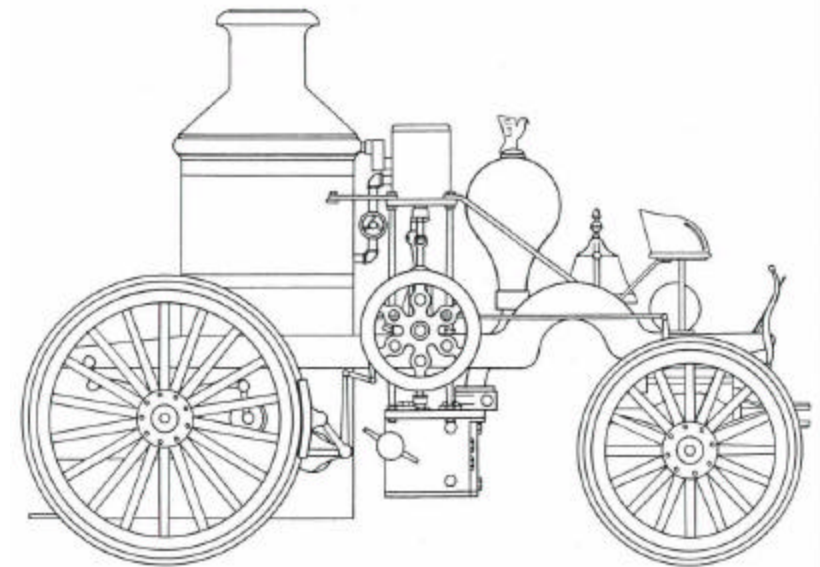
Other Materials

- Brass
- Coal
- Copper
- Leather
- Steel

STEAM FIRE ENGINE BACKGROUND

Charles A. Cole, Sr., founder of Cole's Power Models in Ventura, California, writes about the development of the plans used for the Glendale Woodturners Guild antique Steam Pumper Fire Engine:

“In the early nineteen hundreds, the horse drawn steam pumper fire engine reached its zenith. The writer retains as one of his treasured memories an evening in Chicago in 1917. It was from a second story window that the engine could be seen coming at a distance down Kedzie Avenue. It was a beautiful sight to see the three charging white horses and hear the sound of their hooves on the pavement, as well as the sparks flying and smoke billowing from the stack. The clanging bell was sounding its warning. No wailing siren.”



“It has long been my wish to introduce a model of this beautiful engine. There are some of the old engines kept as antiques, but all we could get from the makers were two good pictures, no prints. Professor Boynton Green, retired from Stanford University, made preliminary drawings, which have been most helpful. Eugene Paul of Inglewood, California, has helped with suggestions and has machined a set of castings for a mock-up. Both spent much time inspecting available originals and reading all the published matter that could be found.”

“Our inspiration was taken mostly from Negative No. 331 of the American-LaFrance Fire Engine Company, which they kindly provided. It is probably the most advanced of any made. It should make a beautiful miniature. Let your imagination dwell on the bright red wheels, frame, etc., with appropriate stripes and scrolls; stack, steam cylinder cover, air chamber, eagle, and bell in polished brass; moving parts of engine in polished plated chrome; boiler lagging* in polished blued sheet steel. Picture these contrasting colors in a harmoniously blended creation – a colorful object d’art. It is doubly interesting because it is an actual working steam model, which may be demonstrated pumping and discharging water from the nozzle.”

Charles Cole, Sr. concludes his notes by stating that “It is our fervent wish that the many duplicates, which we hope and trust will be built from these sets, will help prolong the remembrance of a wonderful bygone era.”

Notes:

- * Lagging refers to the cladding that covered the insulation material around the boiler.
- In the Negative No. 331 fire engine picture, one can see that the bell rope goes through an eye bolt on the stack to the engineer standing on the back of the platform. The driver, with three reins in each hand and a brake to operate with his feet, could not ring the bell.
- One can also see a coal oil (kerosene) lantern on the back of the seat. There were no flashing lights in those days.
- When the engine was parked at the fire, the driver pulled the draught gear pin and drove the team and gear away, leaving it clear all the way around the fire engine to fight the fire.
- A copy of the picture of the American-LaFrance Fire Engine (Negative No. 331), as well as colored pictures of Charles A. Cole’s original working model of that fire engine, is given along with this booklet and other material, to the new owner of the Glendale Woodturners Guild model.

Class A, LaFrance Steam Fire Engines

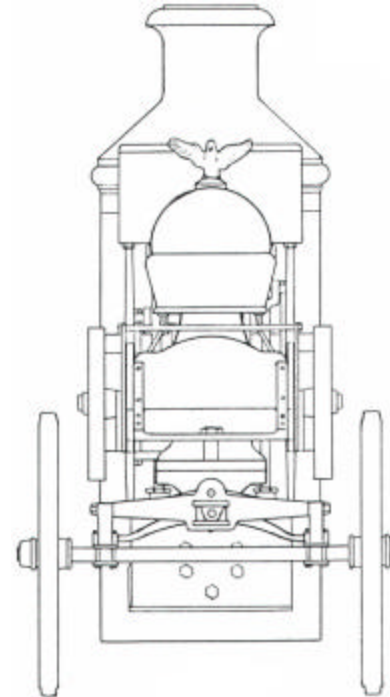
	First Size	Second Size	Third Size	Fourth Size	Fifth Size	Sixth Size
Height Overall	9' 2"	9' 2"	9'	9'	8' 11"	8' 11"
Length Overall	22' 10"	22'	21'	20' 10"	20' 5"	20' 3"
Width Overall	6'	6'	6'	6'	6'	6'
Capacity Gallons Per Min.	850	700	600	500	400	350

Table from “*New Catechism of The Steam Engine*”, by N. Hawkins, M.E., published by Theo Audel & Co. 1903 – The American and LaFrance companies merged in 1904

OUR ACCOUNTS & ANECDOTES

THE PROJECT

By Bob Barnes



I received the set of 25 drawings, which had been purchased at Cole’s Power Models in Ventura, California, at the January 9, 2000, Glendale Woodturners Guild monthly meeting. I made ten sets of these drawings for anyone willing to help break the job into logical and assignable sections. Bob DeVoe and Cal Elshoff each took a set and both came back with recommendations. Using their thoughts along with mine, I made a chart identifying the subassembly break-downs.

The next step was to thoroughly check the plans for discrepancies in measurements, and there were several. One puzzle was the beer keg-like item under the driver’s seat, which didn’t appear in any of the drawing details. Bob DeVoe suggested that we go to Ventura and take pictures of the model made by Charles A. Cole, Sr.

The trip to see the model was a great idea; it answered many questions. We also found a set of notes, which clarified parts of the drawings. It turns out the “beer keg” under the seat was a pressurized water tank to inject water into the boiler during long runs to the fire.

Back home, I xeroxed drawings and made packets for each subassembly to be used by the subassembly lead. Since I was the only member who had made wooden wheels, I made a mock-up of a hub, spokes, and fellows, as an aid to the person who took on the wheel responsibility. I also showed possible jigs for making the wheel parts.

Bill Nelson undertook the task of making the rear wheels and axle. When he finished with those and no one else had taken on the front wheels, he said he would do those also. Carl Stude dug into his supply of walnut and cut and furnished the wood for the wheels and axle.

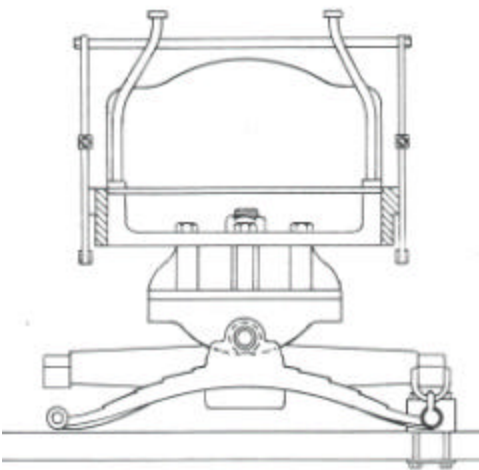
Cal Elshoff said he didn't have the time to make anything, but he would create any drawings that were needed. Before the draught gear assignment could be handed out, I concluded the drawings would have to be redone. Cal offered to make these drawings, and since no one had stepped up to make these pieces, Cal volunteered. In the meantime, Cal and I were discussing how the 25" model would fit in a 24" square base (the size limit was a two foot cube). I said that I calculated we would have 1/8" to spare if the vehicle were placed diagonally on the base. I, therefore, decided to shorten the axles 1/4" to allow more clearance room. At this point, Cal volunteered to make a precise drawing looking down on the model sitting diagonally in a 24" square, with the draught gear laying underneath at right angles to the vehicle. He also offered to make the square base the fire engine would sit upon. By this time, Cal had decided how the shipping case should be made. No one signed up to make the case, so Cal took this on also.

Pete Carta took on the bell. I had expected it to be brass, and we changed that. Pete made it out of wood, and if you get close enough, you can hear it ring like wood will sound.

Damon Siples had signed up for the engine and did a beautiful job. When he finished it, he asked who was going to make the pump (which attaches to the engine). I had been unable to get a volunteer and I said so. Damon said, "Oh well, I guess I'll do it." Damon told me later, that I looked so discouraged that he didn't have the heart to desert me. This was another rescue. Linda Hovenden volunteered to make the support columns between the steam engine and the water pump.

I made the rear springs and the brass shackles, with brass pins, washers, and cotter pins. In addition, I made the fifth wheel assembly, which includes the front frame spreader, the receptacle for the draught gear attachment, the front rocker for side springs mounting, and the rocker cross spring pivoting on the same shaft as the front rocker. Brass clevises attach the rear end of the side springs to clevises on either end of the cross spring. The clevises are brass with brass pins, washers, and cotter pins.

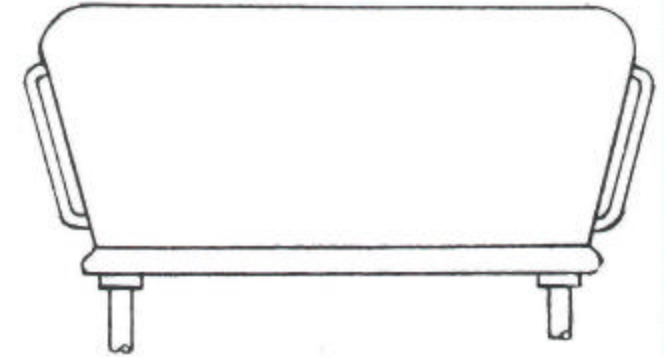
Jim Belknap created the gold decals, which grace our fire engine and add a special touch.



THE DRIVER'S SEAT

By Bill Noble

When the plans for the fire engine were first shown, I really wanted to make the seat portion. Why? Well, two reasons: first, it wasn't a turned part, and so I would not be compared against far more skilled turners than I, but second and more importantly, because it was a bent wood part - at least the seat back was - and I had



wanted to try this for some time. For my first attempt, on a rainy day, I found some eucalyptus bark - it looked about the right thickness, kind of like cardboard, and so I thought that it might make an interesting seat back. I took this rather large piece of bark home and made a paper pattern to match the seat back, and then cut out the bark to match the pattern. It was nice and wet, but even then, it didn't bend nicely like paper or metal. I made a crude form out of wood and clamped it with some alligator clips and let it dry a day or two. Needless to say, it just didn't look very good. I made another attempt with the bark. This time, I planed the bark to a more uniform thickness, and I cut a pattern out of sheet metal and bent it to match the required seat back. To keep the metal from discoloring the wood, I sprayed a coat of krylon lacquer on the metal, and then I formed the bark around the metal form and clamped it with the alligator clips. This looked a lot better. I made a seat bottom out of lauan and brought the items to the next GWG meeting.

Well, I decided that it didn't look quite right, and moreover, the bark was starting to crack, so I figured "third time's a charm" and started out again. This time, I decided to make the back out of lauan to match the seat. I cut a thin (about 3/16") slice of some scrap lauan and then cut and filed it to the pattern in the plans. Then, I took the piece of lauan and put it in a pot and boiled it for about three hours, by which time it was pretty soft and pliable. So, I wrapped it around the metal form, again clamped it with a plethora of alligator clips, and let it dry. Interestingly, boiling the wood changed the surface texture and color, but a bit of sanding made it look like nice red wood (I wanted it to look like red upholstery). I glued the seat back to the seat bottom and lacquered the assembly.

The plans show small metal handles, one on each side of the seat. Of course, I could make handles with metal, but that would be "cheating" - after all, this was a woodworking project. So, I looked around for something with which to make handles. I settled on making my own fresh wood dowels by pulling some twigs from my olive tree through successively smaller dies until I had the desired diameter, then forming the resultant green wood dowels into little handles and pulling them through holes I had drilled at the appropriate places in the seat back. This turned out to be much harder than it sounds. The little twigs would either pull apart as I pulled them through the dies, or they would

split when I bent them, but after 10 or so tries, I managed to get suitable looking handles on each side.

I also made seat supports, again boiling some small dowels to make them supple, then bending them using a wooden form that I clamped in a vice to press them into the proper shape. The first pair of supports I made was a total failure, because I clamped the form too tight and ended up with flattened supports rather than nice round ones. A second try split the dowels, but a third try worked out. I stained them with a walnut stain so they would look old and match the rest of the fire engine.

To be more authentic, I made the floorboards and brackets out of oak because on old cars and carriages, that is the most commonly used material. Since these were simple flat pieces, the only issues were cutting the wood to a proper thickness and planning the brackets to the proper dimensions so they would look right.

This was a fun project because I got to try out some things that I never would have tried otherwise, and lo and behold, some of these things actually worked. Of course, the overall end result, when my pieces joined the myriad of other pieces, was pretty nice too!

THE WATER KEG

By Don Comer

The American-LaFrance Steam Fire Engine carried a pressurized keg of water from the fire station to replenish the boiler during a long run and until a source of water was located at the fire scene sufficient to fight the fire. Even this relatively simple keg required some research before I could turn a reasonable facsimile for the model. All I had to work with was a circle representing the end view and a verbal description saying it looked like an "old-fashioned beer keg," and it fit under the driver's seat.

What did an "old-fashioned beer keg" look like? Particularly, what proportions did they have? Surprisingly, relatively few liquor stores in Los Angeles sell retail keg beer anymore. After calling around a bit, I located one who did and went there to get some pictures. But modern beer kegs don't look "old-fashioned". They are long straight cylinders with a couple of rings around them for rolling purposes. For some reason, this particular store had an old empty "pony" keg sitting in the storeroom. The manager obligingly carried it out to the sidewalk so I could take clear pictures of it. Once I had the pictures, it was a simple process to scale the side and end views to arrive at reasonable proportions for the keg. Then, it was only a matter of scaling the dimensions to fit under the driver's seat. Finally, turning the keg out of curly maple, carving the brackets, and mounting the keg on them, was the most fun part.

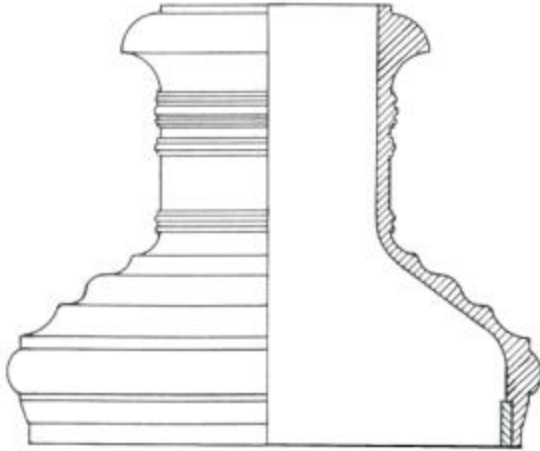


2000 AAW Symposium - Charlotte

- 1132 attended the three day event
- 25 Chapters entered Collaboration Challenge pieces – keen competition
- Awards:
 - First Place – Glendale Woodturners Guild "Vintage American-LaFrance Steam Pumper Fire Engine"
 - Second Place – North Texas Woodturners "Around the World in 80 Turns"
 - Third Place – Massachusetts South Shore Woodturners "Gnome Rotary Engine"
- Ron Gerton purchased the Steam Pumper Fire Engine in spirited auction
- Large quantity of turned art and some collaboration pieces sold at auction
- More than \$41,000 raised from the auction for the AAW Education Fund

THE SMOKE STACK

By Amos Thompson



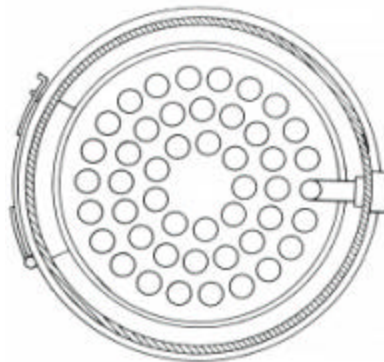
Born in 1921 and raised in Iowa, I grew up with a friendly feeling for the woods in my hometown of Cedar Rapids. I was first introduced to the lathe in my high school wood shop. I found that working with my hands and creating things from wood gave me pleasure and satisfaction.

With retirement, my interest in woodturning became my hobby. After progressively buying three lathes, each one being more superior, I became more passionate about crafting wood into pieces of beauty.

Joining and belonging to the Glendale Woodturners Guild, along with my son, Curtis, who is also a member, brought a feeling of comradeship with the other members of the club.

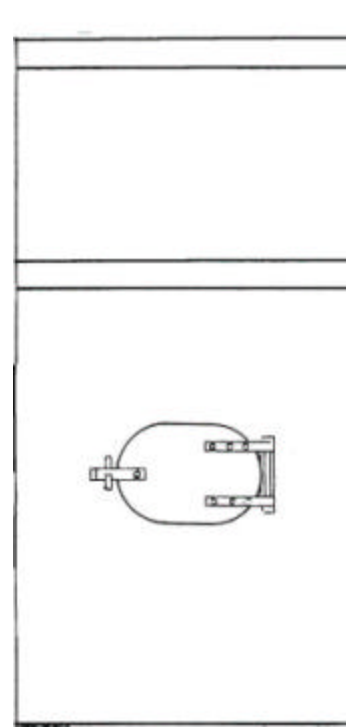
The decision to build the antique steam pumper fire engine turned out to be a most challenging effort for the 20 members who participated in the project. My contribution was the smoke stack, which I thought would be the easiest part to do. The first one I made was a prototype out of redwood, the second try was not quite right, but the third attempt out of "good" wood, Mexican lignum vitae, turned out nice even though it was a very hard wood. Since my son, Curtis, was making the boiler, it was easy for us to get together and check the fit of the smoke stack on the boiler.

Inside the stack, I made the brass flue system. Even though it barely shows, if you look down inside the smoke stack, you can see the top of the brass flues. I felt we needed to be true to the whole system. I'm very proud to have had the opportunity to take part in this extraordinary piece.



THE BOILER

By Curtis Thompson



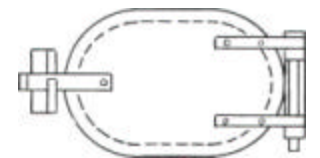
When the fire engine was chosen as our project, I was concerned about its complexity. I quickly surmised that the main boiler was an achievable piece for me to tackle. I volunteered and was given this task.

I began by choosing ash for the boiler, mainly because it was lightweight, strong, stable, and cheap. The piece in the fire engine was my third attempt. To achieve a stable, crack-free, thin-walled boiler, I first mounted a piece of freshly cut green ash 6"x6"x14" to a six-inch faceplate. I then rough turned the cylinder to 5 3/4" diameter and hollowed the piece to a depth of 12 1/2", leaving a wall thickness of 1". The roughed out piece was then submerged in a solution of Pentacryl. Pentacryl is a wood stabilizer for wet or green wood, and is very effective at controlling cracking. After three days, I removed the boiler from the solution of Pentacryl and let it dry for three weeks. I then turned the boiler to its final outside diameter and sanded it. Now, it was time to turn the interior to its final

thickness of 3/16". I could not hollow the boiler to its full depth of 12", as deep accurate cuts past 8" were getting difficult. I decided to part off the boiler to its final length and reverse it on a wooden jam chuck to finish the last 3" or so.

It was necessary to use a steady rest that I had just purchased for this job. Taking light cuts with a 1/8" cutter, I finished the last of the hollowing very carefully. After a little sanding and a light coat of cut-lacquer, the cylinder was ready to deliver to my father who was turning the smoke stack that sits on top of the boiler.

Initially, I thought this would be an easy piece to make – wow, was I wrong! I did learn a lot though, and I'm proud of my boiler. It looks great on the fire engine. The other pieces I made were much less demanding. They were the boiler door and the brake levers.



Oh, there is one more piece I made, which was not on any of the drawings. On the fire engine seat sits a fireman's hat that I turned to scale. I turn full size hats, and what are considered miniature hats, but this the smallest hat I ever turned.



THE AIR CHAMBER

By Bill Haskell

I turned the air chamber, which is shaped like a light bulb, that sits in back of the fire bell just behind the front driver's seat. I also did the layout and artwork for the brass plaque with all the participants' names and the piece title.

In looking for wood with which to make the air chamber, I wanted something that had rich coloring and a tight, but visible grain pattern. I looked around the shop and out on the wood-pile. The piece of wood I finally decided upon was a chunk of mesquite that was in the firewood stack. I had several pieces of mesquite, but they were end checked. I found one piece that looked like it had enough good wood to do the air chamber.

I proceeded to turn the air chamber, and once the outside form was turned and finished to the drawing dimensions, I decided to hollow the inside to be more authentic, even though it wouldn't be known or seen. The inside was hollowed out through a hole (about 3/4") where the eagle is perched, to a wall thickness of about 3/16", probably a little less. The hole was plugged with the same mesquite and the eagle's base made it invisible.

After the turning and sanding was finished, a nice grain pattern was evident. The color of the wood was a typical mesquite reddish brown. I thought for the fire engine, which had other woods of a similar color, something darker would be better. So, a black translucent stain was applied to darken the wood's color. It seemed to help, and for the final finish, a number of coats of lacquer were applied, rubbed out, and polished.

THE EAGLE

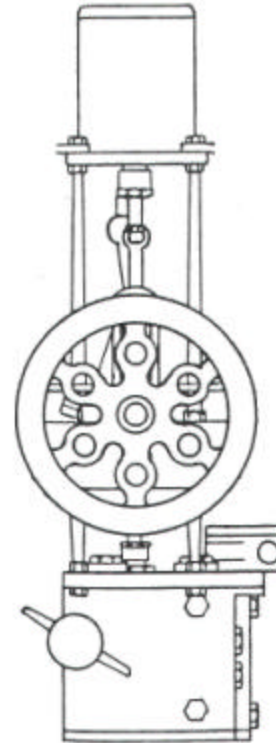
By Joe Larsson

I carved the bird, probably an eagle, perched on top of the air chamber. Unfortunately, the drawings provide only a side and front view. There was no top view, which is important to the shape and pose of the bird. As a result, I made three different models before starting on the real thing. I used basswood and turned the round base on the lathe, and then carved the bird itself by hand. Each wing was carved separately and attached to the body. The wings were quite fragile, and I broke several in the process. A gold paint was applied to give the bird a final touch.



THE ENGINE & PUMP ASSEMBLY

By Damon Siples



First the disclaimer: this was more a milling exercise than a turning experience. The dominant tools used were two vertical mills, a SC spin index fixture, an indexing head, a three-jaw chuck, various SC collets, expanding arbors, and four flute mills. The lathe, drill press, scroll saw, and bandsaw were primarily used as roughing-out tools. Items like plug cutters, jewelers slitting saws, taps and dies, as well as CA glue, were often used where standard methods didn't work.

The choice of wood used was dependent on what I had on hand or was willing to part with easily. In a few cases, esthetics and/or machinability came into play. For example, I have a lot of mulberry, but after making the pump body out of this wood and assembling the unit, I found it too gaudy. So, I made the final one out of walnut. Pieces like the pear piston rods; ironwood wrist pins; rosewood packing nuts; ebony, cherry and mulberry nuts and bolt heads; padauk piston rod ends; and maple and cherry crank shaft were chosen because they were scraps that I hadn't found a use for yet.

The machining and set-up techniques I used were similar to what one uses when machining metal, but with much more rigid support and higher cutter speeds. Walnut and mulberry worked as expected, as long as I kept the cutter speeds above 1000 rpm. The outstanding woods were pear and ironwood; however, the ironwood must be straight-grained or it tends to fracture under stress and it stinks when heated. The rosewood and padauk were prone to cracking due to high heat generated by milling cutters when drilling at high speeds. When the feed rate and speeds were reduced, the thin walls stayed intact.

Some of the less orthodox methods I used in reaching my goals could be considered crude at times, but they worked. The crankshaft is an assemblage due to the difficulty in accurately turning a one-piece crank. Instead of the lathe, I used plug cutters to cut sections out of maple. These were then glued to the cherry counterweights with CA. The main body of the eccentrics were actually turned on the lathe in order to get accurate alignment of the follower and then drilled for the crank journal, assembled, and glued. The groove for the follower was cut into the

eccentric strap and rod using a jeweler slitting saw and a Foredom; I couldn't find the metal slitting saw to use with the mill. The plug cutters were perfect for cutting the radiuses for the pump rod yokes, and I recommend them highly for cutting rings. I was able to cut threads on some of the pieces, but in the end, I resorted to slip fits and CA for most of the fasteners; wood doesn't lend itself well to threading in small sections, especially when 5-40 and 8-32 threads are required. I would have preferred to have been able to bolt the assembly together, rather than glue it, since this would have allowed much more flexibility when matching the engine and pump assembly to the frame and boiler. At the final assembly of the entire unit, I was surprised and pleased that the engine crank still rotated.

This project was a real challenge for me and certain aspects of it, such as threading, are still occupying my thoughts.

SPECIAL SUPPORT

By Bob DeVoe

Bob Barnes contacted me after he reviewed the American-LaFrance Fire Engine working live steam model plans. Bob found that there were errors and omissions in the drawings, which made them difficult to understand. We were also concerned with how to break down the parts for individual members to make and supplying them with the drawings. The only factory picture available of the real size fire engine was of one side only and poor quality. Having dealt with Cole's over many years, I was sure they would have a completed model that we could look at. Bob and I had a pleasant trip up the coast to Ventura for a visit with the friendly people at Cole's.

The live steam model was moved to a table so we could view it from all sides to take pictures. I took numerous general and detailed close up views of the working model with my SLR 35mm camera with a 70—210mm macro lens and flash. I also purchased a selection of gauges, valves, and fittings as representative samples for the members to study. Numerous members commented that the color pictures were a great help in visualizing and making the parts they produced.

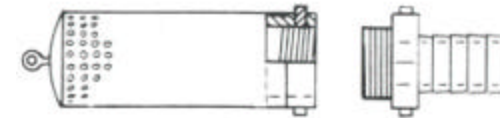
Another concern was the need to be sure all members' parts were made to accurate dimensions so that they fit for assembly. Along this line, I cut and pasted drawings to make complete and dimensionally correct frame rails and other parts. The necessity of the frame contour to fit the boiler with some sharp angles raised doubts as to its being strong enough when made of wood. As a back up, I made a series of maple wood dies to form the full-length main rails and cross members out of aluminum. As it turned out, with some artistic license, wood rails were made and incorporated in the finished model. They were adequate and the unused aluminum rails presently reside in my file cabinet.

THE HOSE HARDWARE & BRAKE RIGGING

By Dick Lukes

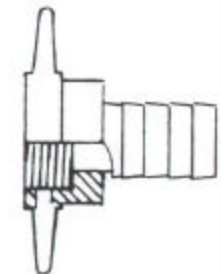
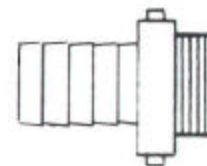


I made approximately 70 brass components over some three months, taking perhaps 100 or more hours of shop time. This includes all of the nozzles and caps for the hoses, the strainer, and brass parts for the brake rigging.



Probably one of the more challenging items was the U-shaped fitting for the end of the rods making up the brake system. These 12 components were made starting with the cutting of a slot in a rectangular piece of brass. I then bored the holes for the 1/8" brake rods and the holes for the bolts while the brass was still in one piece. The 12 pieces were then sliced off the main block of brass and the corners rounded. These pieces were produced on a Bridgeport mill with digital read-out on three axes. The boring, turning, and threading of hose caps, nozzles, and the strainer were done on two different metal lathes in my shop.

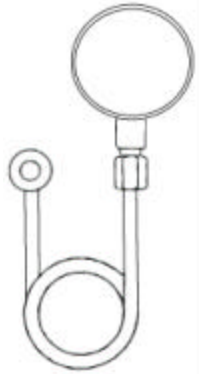
In addition to producing this brass work, I photographed the finished steam fire engine for media use.



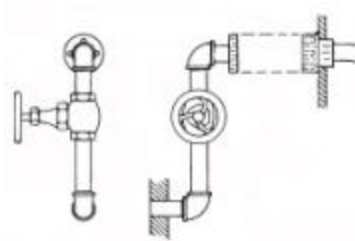
THE VALVES, GAUGES & PLUMBING

By David Holzberger

I have been building scale models of steam and gas engines for 25 years. Also, I have restored antique gas and steam engines. My part in building the American-LaFrance Steam Engine was to produce the small steam valves, safety valves, steam gauges, feed water pump, steam whistle, and associated pipe fitting.



At first, I thought of making them all out of wood, but realized that would be a long undertaking and time was limited. Therefore, I settled on using brass, copper, and steel. I then made them as if they were to be used on a fine scale model. Unfortunately, the

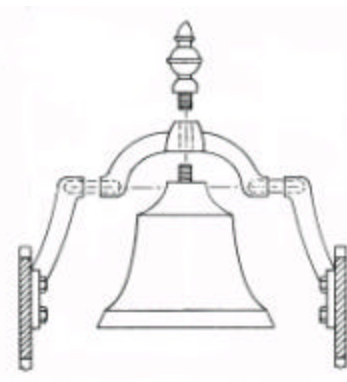


drawings we had did not provide a diagram of the gauge or whistle. I assumed these parts were pretty standard with what I had seen on steam models before.

THE BELL

By Pete Carta

I made the bell for our American-LaFrance Fire Engine from the finest "bell grade" mahogany available. Each step of the process was carefully monitored to create a bell that produced a perfect pitch. The pitch and resonance qualities of the bell were checked against the highest standards available. The bell's surface was then polished to a deep rich luster. The clapper was produced from a solid piece of black ebony. The length of the clapper was precision adjusted to strike the bell in the exact position to produce the sharpest tone possible. The left and right hangers, along with the supporting arch, were painstakingly crafted from solid furniture-quality walnut. The time taken to produce the finished assembly should not be measured in work-hours, as this was truly a labor of love.



THE FIRE HOSES

By Michael Kane

Commenting on my contributions to the building of the LaFrance fire engine is somewhat embarrassing. I feel like the little tot, who on the occasion of his father's birthday, is generously awarded credit by his mother for the elaborate birthday cake, when all he did was lick the bowl. My "bowl licking" assignments were the hoses made of purple heart and finding the right material for the coal bin.

Most of the parts for this ambitious project required turning skills that intimidated this novice's ability. Bill Kelly, who was optimistic and supportive, "volunteered" me to make the hoses. The turning challenge here was to turn the hose to the exact size of the brass fittings made by Dick Lukes. Dick invited me to his shop to make the hoses. Dick probably could have made these puppies faster himself, but he didn't and as a result, I developed my skills with the skew chisel and learned how to drill a center hole so that the fittings seated properly. My one creative element came from a Native American wood carver, who told me that a deeper shade of purple or eggplant color could be brought out of the purple heart by burnishing or torching the wood. So, out came my plumber's propane torch, and I set fire to the hoses! Learning this process is like that infamous porridge, "too little flame no color change, too much flame and you've got firewood." But after making a few fire sticks, the efforts yielded the desired deep purple color.



My second assignment, the coal, was going to be a cinch, or so I thought. Being somewhat familiar with model railroads, I thought I could run into my local hobby store and buy a packet of properly scaled pieces of black rock for coal. Unfortunately, none of the packets were the right scale for our fire engine. The answer came while visiting my next-door neighbor, when I spied her beautiful salt-water coral reef fish tank. I realized the tank filter media was comprised of carbon gravel. I asked if she had any extra; she did, and it was the right scale - eureka coal! All that was left to do was to pile up the carbon and apply CA glue.

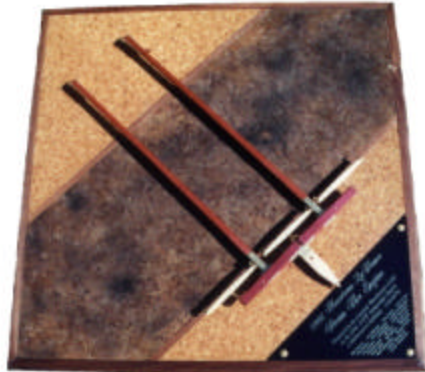
As you read the other accounts by the talented people who made this beautiful fire engine, you might conclude, as I have, that this achievement was driven by the spirit generated by the inspiration, generosity, time, and care of all involved. It is this spirit that created the original LaFrance fire engine and what makes this model a loving homage to its greatness.

THE DISPLAY BASE

By Cal Elshoff

At the outset, when Bob Barnes received the fire engine model drawings, I assisted in deciphering those drawings. Basically, they were "engineering parts drawings", dimensioned, but vague in their interrelation to each other, which were found on various pages. Most were half-scale drawings, which included front, back, and side elevations. No overall plan drawing existed. So, I drew a footprint layout to full scale, positioning the fire engine diagonally on a two-foot square base, as it would be mounted. Because the three-horse draft-pulling unit was too long (display size limitation), I laid it out resting on the base perpendicular to the engine, between the front and rear wheels.

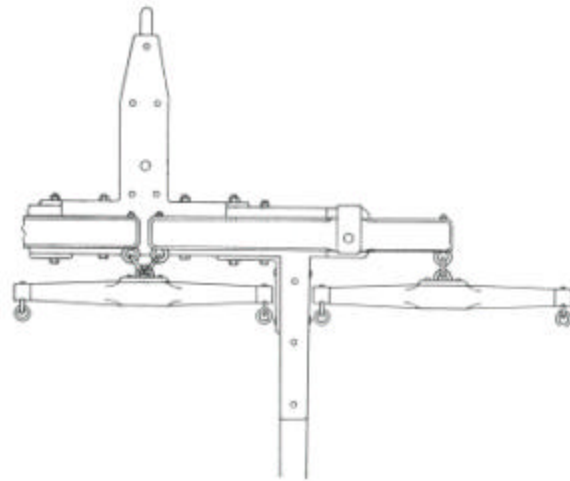
In addition to the planning and drawing work, I produced for the model:



1. The 24" x 24" x 2" high base unit on which the engine was mounted. I used a stained cork surface to resemble a cobblestone roadway, banded the four sides with walnut. I attached a triangular brass engraved plate, designed by Bill Haskell, with the project title and the names of each contributing craftsman.
2. The three-horse draft assembly was composed of two tongues (bloodwood or satiné), a tripletree and two doubletrees (purple heart), plus three singletrees

(maple). Bob Barnes made the flat brass plates holding the tongues to the tripletree. For the singletree brass ends, I used brass tubing, then cut and bent round head brass brads to hold the small brass rings, which Bob supplied.

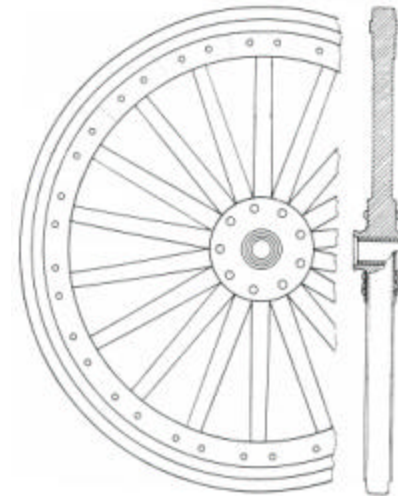
3. The two-foot cube traveling box had carrying handles and a removable bottom. This box, large and sturdy, was designed to protect the fire engine while being transported to the symposium.



THE WHEELS & AXLES

By Bill Nelson

At one of our early meetings on the fire engine, Bob Barnes brought in some samples of how to make a wooden wheel. He stated at the time that he knew how to make wooden wheels and had made many. Now it was time for somebody else to find out how much fun it is to make wooden wheels. I looked over his samples and decided that I would try to make the rear wheels and axle. These model wheels are made the same way that full size wheels are made. It looked like a challenge and it proved so. At the next meeting, Bob hadn't gotten anybody to sign up for the front wheels and axle so I said I would do them also. This probably was better in the interest of matching the front and back wheels.



Carl Stude came up to me and said he would cut all the strips for the spokes and felloes (the individual arched pieces at the end of each spoke which make up the wheel) from walnut, and if you know Carl, I could not say no. This was great as all the strips were of equal size, which made it easier on me later when I started to cut the individual pieces. I believe that the hardest part of making the wheels was figuring out how to hold each part to machine it, whether it was turning, sawing or boring. There were many (and I do mean many) jigs used to get to the finished wheels. The first items I made were the spokes (18 back, 16 front, for each wheel). The first jig I made was used to cut all the spokes to the same length. The back wheels are larger than the front

ones, so two different lengths had to be made. Next, a jig was made to cut the angles on the end of each spoke, where they come together in the middle of the wheel. Because there are a different number of spokes in the front and back, two different angles had to be cut. This involved much fiddling around to get all the angles to align in the middle. On the original wheels, the spokes were turned oval in section and tapered. I decided that the oval section was going to be too hard, but that the taper would not be too hard to do. I used a machinist's lathe with the tailstock offset to turn the taper on each spoke. Another jig was made to hold the end of the spoke with the angles in the headstock. Using the automatic feed on the lathe made the spokes easier to do than by hand on a wood lathe. I made about 50 of each size in case of mess-ups. Because I didn't know exactly what the inside diameters of each wheel was going to be, the tenon on the end of each spoke wasn't turned until later.

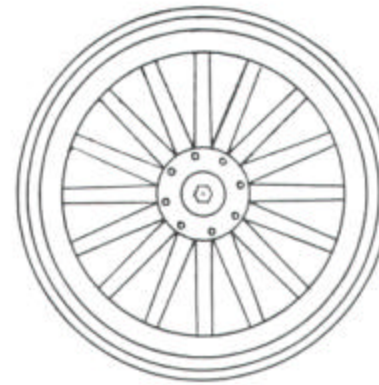
The felloes were made next. First, I had to decide how long each piece would have to be cut to make the correct size wheel. I then made a jig to cut the correct angle and the correct length of each felloe. This also involved fiddling around to get the right fit. Again, because of the different numbers of felloes in the front and back wheels, two different settings were used. Many extras were made just in case. Now I had to figure out how to temporarily join all the felloes for each wheel, and then turn the inside and outside diameters. If the felloes were glued into a solid circle, you would not be able to glue in the spokes later. I used rubber cement for the temporary bond so that I could get this joint apart later. Now, how do you hold this ring of wood and turn the outside and inside diameters? I thought that if I put a flat disk on a faceplate and then sandwiched the ring of felloes between that and another disk, with the tailstock holding everything together, I could turn the outside with ease. This looked good until I turned it on the lathe. The felloes separated and flew out with amazing speed landing all over the shop. I was able to recover all but two of the pieces. (Good thing I made some extras).

After thinking things over for a while, I decided that the pieces had to be secured to the faceplate disk, plus have the other disk and tailstock support. I used hot melt glue to hold the ring to the faceplate. I made sure that each felloe had its own glue bead so they would not try to fly like the first time. I was now able to turn the outside without any more problems. To turn the inside diameter, I turned a small recess in the faceplate disk to fit the outside of the felloe rings. This centered the rings on the lathe. I then screwed another disk to the front on the outside of the felloe ring. Now I was able to turn the inside with no problem. Another jig was made to center the felloes so a hole could be bored for each spoke. Now that I knew what the inside diameter of each wheel was, I turned the tenon on the end of each spoke so that when all the felloes came together on the rim, all the spokes would come together at the hub. This required a little fine-tuning so all came together the right way.

Before gluing, I dry-fit the assembly twice and timed myself so that I knew I would have enough time before the glue set up. I used one hour setting epoxy to glue it all together. Another jig was made to keep the wheel flat and pull it all in tight while the glue set. Each wheel assembly was mounted on the lathe (another jig) to turn the faces on each side to true them up and give them a layered look like an original wheel.

I decided that I would use ebony for the tires. It took a board 20" long and 6" wide to make the tires on all four wheels. This seemed like a lot of wood the first time I laid it out, but it came out the same each time. I used the same techniques for making the tires as for the felloes, but there were only eight pieces in each tire. These pieces were then glued to the wheel and again turned to shape. Maple disks were turned to cover the center of each wheel. Hubs and hubcaps were turned from Macassar ebony. Both were threaded so that the hubs can be unscrewed.

The last things to be made were the axles. On the drawings, the front and back axles are of different lengths and different thickness. I started to make the axles to match the drawings, but decided to call Bob Barnes to verify their lengths. He had decided to make the axles a little shorter so the whole fire engine would fit in the two-foot cube. I'm glad I mentioned the different thickness to him. He had already made the brass hardware for the axles, and had made it to fit the thicker one. This saved me from making the wrong size axles.

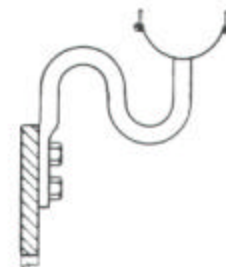


On the original wheels, bolts were used to hold metal plates on the wheel rim. I decided to add brass brads to the wheels to look like bolted wheels. I drilled 44 holes in each wheel, then cut off the heads of 88 brads and glued them into the holes on both sides. I applied oil for a finish.

These wheels took a lot more time than I had ever imagined and a lot more parts too. In all, there are 520 parts in the four wheels and axles. At the beginning, Bob Barnes said he knew how to make wheels and it was somebody else's turn. This is exactly how I feel; it's time for somebody else to find

out how much fun it is. I have a very large box of jigs if anybody is interested.

After I had finished the wheels, I received a call from Bill Kelly stating that there were a few parts of the fire engine that still needed to be made. The three brackets that hold the hoses on the side of the engine were some of those parts. After much unrelenting arm-twisting, he got me to say uncle and agree to make the parts. That is one of Bill's finest traits; he is a good arm twister and can get people to do things. There were a lot of GWG members going around rubbing their arms before the fire engine was complete.



After reviewing the plans, I decided that sheet brass and brass rod would work fine for the brackets. More jigs were made to bend the parts in a press to fit the hoses. These parts were then silver-soldered together and buffed and lacquered. I used leather lacing for the belts. The belt buckles were the last things I tried to make. There are six buckles (two for each bracket) for the two hoses. I was able to punch out some brass pieces (ten separate tries), bend some wire (about 24" worth), and solder one little buckle in about eight hours. I decided that this process was too slow,

so I went to a doll store and tried to find some very small buckles. You get a lot of

funny looks going into a doll store. They had only three of the size I wanted, and it would be weeks before they would get more. Dejected, I went home to ponder the problem. As luck would have it, Bill Kelly came over at that time. After taking about one second to look over the problem, he said I should just grind some points on the ends of the brackets, put holes in the belts and just loop them over the points. Now I didn't want to make Bill feel bad, so I grumbled something about thinking about his suggestion. After he left, it took me about 30 minutes to grind the brackets, poke the holes, and glue on the belts. If only he had come over days before!

The last things that I made for the fire engine were mounting brackets to hold the wheels to the base for shipping and display. For shipping, I made some wooden brackets to hold the fire engine from bouncing around in the crate. The springs are very fragile and could break if the weight of the engine rested on them during shipping. I know - I broke some parts during assembly. There were three shipping blocks that had to go in just right and in the correct place in order to work. These blocks were held in place with masking tape. I knew that the fire engine would be packed and unpacked by many people before it got to Charlotte, so I relayed the packing instructions to Bill Haskell when he picked it up, and also wrote them down on a block on the inside. As the fire engine went from one guy to another with several packings and unpackings (the next two days it was displayed at the Old Pasadena Fest art show), the instructions went from detailed and complete to, "Just put it in the box". Before Don Comer picked it up for its trip to Utah and Charlotte, I was able to repack it the correct way. But even this did not keep a few nuts and bolts from vibrating loose during the fire engine's journey.

THE GOLD LETTERING

By Jim Belknap

When fire engine volunteers were asked for, I knew that I was going to be out of town and would not have time to turn or make any parts. However, I really wanted to be a part of the project. I asked if gold lettered decals could be used on the fire engine with the name of our club, the engine number, and other identification. The answer was yes, and I was given drawings for the areas that would be a good place to put lettering. I hadn't made decals before, so I got busy and found a place that sold the materials I needed. Then, I went to my computer and laid out the lettering for the decals. When the material arrived, I made several of each so there would be extra decals with which to practice. This was a fun project for me and I was proud to be a part of it.

*Glendale
Woodturners Guild
Engine No. 1*

FIRE ENGINE ASSEMBLY

Or

"American-LaFrance Follies"

By Bill Kelly

In January 2000, we first saw the pictures and drawings of the fire engine. Bob Barnes had broken the project into about 15 tasks. After reviewing the work, I volunteered as task leader to make the boiler and associated parts.

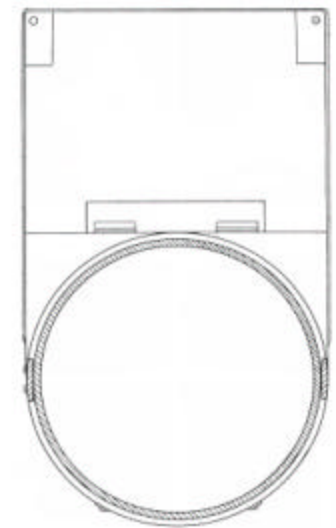
I then recruited Amos and Curtis Thompson and Mel Foncannon, who live in the nearby South Bay area, to work on the project. Curtis turns cowboy hats and had a large block of white ash, so he offered to turn the boiler body. Amos (his father) offered to turn the boiler smoke stack and flues. That left the coal bin and ash bin that Mel (somewhat reluctantly but gamely) volunteered to do.

Plans were distributed and work began. Prototype parts were created, the results reviewed at a club meeting, and in February we began turning "the real thing."

I had several discussions with Bob DeVoe regarding the frame members. There are several sharp bends and curves, and we discussed possible laminations over a metal core to provide strength. It had not been decided whether to make the project all wood or whether to paint it like another model Bob had photographed. Anyway, I agreed to assist him when the decisions were made.

Meanwhile, Mel constructed the coal and ash bins out of 1/16" aircraft plywood, after we decided to use wood instead of brass for these parts. He did an outstanding job, even though he said his interest level was low because he did not get to turn anything. The sparkle in his eyes told me something else.

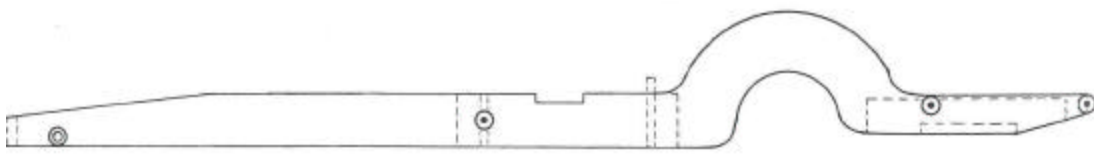
Our tasks were pretty much completed (or so we thought) around the first of April, when Bill Haskell called to announce most of the parts were being completed, and I was asked to organize the various task groups and supervise putting the engine together. After agreeing, I contacted the other groups and was dismayed to find some parts had not been assigned to anybody. It seemed we were running out of time and we needed to beef up our efforts.



We had a meeting of subassembly group leaders in my workshop on April 12. It became apparent that we had much work to do and not as much time as we thought. The AAW Symposium was scheduled for June 30 in Charlotte, North Carolina. This meant we should complete the fire engine by early June – only eight weeks away! We set a completion date of June 3.

How will we get the project to Charlotte became a key question! I called the president of the Charlotte chapter to see if we could ship it to him, not daring to ship it to the convention center or the hotel. He had been forewarned by AAW not to do this because of liability considerations. Having lived in Charlotte some years ago, I called an old friend and neighbor, but learned he had retired and moved to the beach. His daughter, who was living in her father's old house, agreed to accept the shipment. Lacking confidence in motor freight for our somewhat fragile project, we started looking for alternatives. As a last resort, Ed Hotchkin, one of our members, said he would take it with him on the airplane when he flew to the symposium. Have you ever tried to check in a two-foot cube, 25-pound, wooden box as baggage? We also had little confidence in this approach. Then, Don Comer, another member, offered to carry the box in his travel trailer since he was driving to Charlotte. Only one complication – he was planning to leave May 29th to attend a woodturning symposium in Provo, Utah. We gladly accepted his offer, even though that blew our June deadline. Now, we have only six weeks to make the remaining parts and assemble the fire engine.

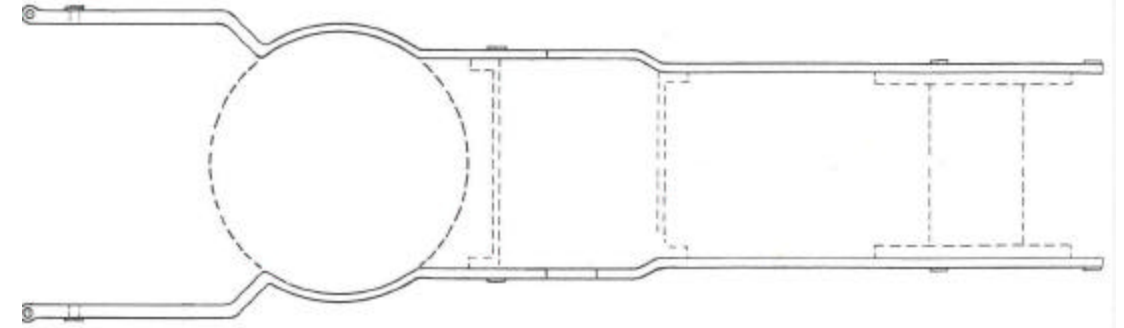
For our April 12 meeting, we went over the progress, using the 25 separate drawings as a guide. We checked each drawing and identified the unmade parts. Missing were the brakes, rear suspension and wheels, steam pump, the plumbing system, etc. Some of us offered to go the extra mile and make more parts and to find others willing to rush the needed parts to completion. I was elated by the response. After the customary griping and excuses, one by one we came up with members excited to become part of the project. The outlook turned from dismal to rosy in only a few days.



Some challenges remained. Bob DeVoe had planned to have the frame members completed by April 12, but he became ill and ended up in the hospital. He went to a friend's home to recuperate, still planning to complete the frame by April 27. In the meantime, a friend of mine in the lumber business received a cargo of Chinese

white oak from Taiwan. He gave me some of the dunnage from the shipment - 4³/₄"s of the same wood. It was pretty wood and seemed strong, so I made a prototype frame from it.

On May 7, Bob DeVoe delivered the aluminum frame and on May 13 our assembly group looked at the two frame sets and opted for the wood frame.



We had been meeting almost weekly at each other's shops and finally the "put-it-together" process began at Damon Siple's shop on May 13. We were elated to see the parts coming together with almost no adjustments. During this session, I dropped one of the oak frames, and it broke just in front of the pump mounts. We glued it back with "Hot Stuff" and adjusted the angle of the forward spreader to help support the glue joint – it worked just fine.

Another assembly work session at my shop with Bill Nelson saw the project almost complete. We had planned to use brass boiler bands. They needed to be about 18" long and we could only find 12" long brass stock. After some deliberation, I turned a band out of maple. It fit fine, but did not look right (maple on ash). I then turned three bands from some claro walnut gunstock remnants – much better!

In our final assembly, we had to modify the plumbing arrangement somewhat. Deciding which parts to assemble in what order became a challenge. The copper feed water line was the last to go in. Dave Holzberger's plumbing, brass valves, and eccentric, worked perfectly.

We decided to assemble our engine using brass machine bolts, which we purchased at a model railroad shop together with some brass tubing and strips. Along the way, we discovered that no one was making the brake reach arms and hangers. I gave Curtis Thompson some koa left over from a bathroom cabinet project. He made the arms out of koa and the hangers out of mahogany. The plans called for 3/32" holes in the reach arms, and Curtis followed the plans faithfully. However, the machine bolts were too small and the arms wobbled too much, so I lined each hole with brass bushings cut from 1/16" tubing. Much better!

Again, Curtis had followed the plans making the mahogany brake hangers. But since I had made walnut boiler bands instead of using brass, the hangers didn't fit. A little carving with my Dremel fixed that. I also laminated some ash strips and turned that glue-up to make the spreader bar that ties the brake system together.

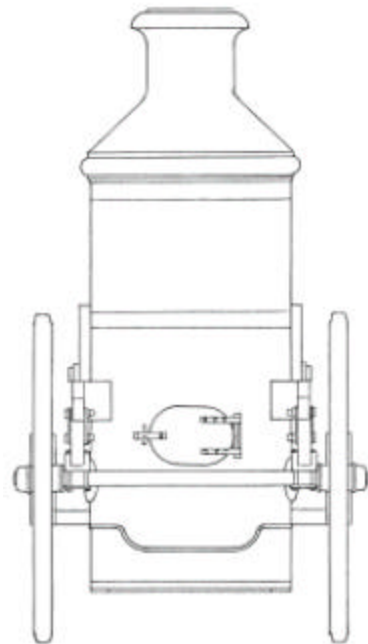


I made prototype brake shoes while Curtis was making the reach arms and Dick Lukes was doing the brass reach rods. Bill Nelson pointed out to me tactfully that the shoes should contact the wheel rims and not the tires. Two sets of shoes later, I got it right. We actually held up the back wheels, spun them, and applied the brakes. Smug smiles showed they worked properly!

A final assembly meeting took place at Bill Nelson's shop where he made the brackets to hold the wheels on the base. Bill also engineered the blocks to hold the fire engine steady in its shipping box for the long journey ahead.

I'm now putting together a write-up on lessons learned from this project to be used as a guide for future collaborative challenge captains. The overwhelming support and timely cooperation of our team carried us from a moment of mid-project despair to, in the end, great jubilation!

Glendale
Woodturners Guild
Engine No. 1



CROSS COUNTRY TRAVELS

By Don Comer

None of our club members could stand the thought of the way the baggage handlers would treat our fire engine if we shipped it by airfreight, UPS, or similar means. So Jackie, my wife, volunteered us to take it to the AAW Symposium in Charlotte, NC, in our fifth-wheel trailer. We were the only club members who were going to drive instead of fly to the symposium. Fortunately, our trailer has freestanding chairs at the dining table, so we left two of the chairs at home and substituted the custom designed and built shipping box in their place. The box was so beautiful; we wrapped it in an old comforter to protect it during transit. (Our cat thought we had created a great place especially for her to rest and observe the world out of the windows.) We had planned to attend the Utah Woodturning Symposium in Provo, Utah, as part of the same trip, so unfortunately, that moved the deadline for completion of the fire engine up about three weeks. Our club members responded like champions! But because we left so early, most of our club members did not get to see it before we had to take it and leave for Charlotte.

We rolled out of Los Angeles (actually Downey) at about 4:00 AM, May 28, so we could cross the desert before the heat built up. We wanted to avoid the heat, both for the sake of our pickup engine and for our special cargo inside the trailer. We had a great time at the Utah symposium; an item of note was a "Night Stalkers" visitation. One night, just as we were preparing for bed, there was a knock on the trailer door. There stood a group of scruffy looking characters claiming to be Glendale Woodturners Guild members and demanding to see the fire engine. What could we do but slide it out and unpack it for them? After they left, I got into my pajamas, and then the second wave of "Night Stalkers" struck. I'm not naming names, but one of them looked a lot like Bob DeVoe.

After the Provo Symposium, we took a leisurely trip down through Colorado, Texas, Missouri, and Arkansas, visiting friends and relatives. Everywhere we went, we had to show the fire engine to those we were visiting. Jackie's cousin in Missouri wanted to buy it on the spot, but I said he would have to bid on it at the Charlotte symposium like everyone else. So he authorized me to bid for him, up to a certain limit.

At the AAW Symposium, we received a lot of admiring comments, but one of the ones I remember most was from a bystander as we brought it into the display area. He said, "I don't know what's in it, but that box definitely wins First Place". That was indicative, in my opinion, of the care and workmanship quality that went into every part of the whole project.

Newspaper & Magazine Articles

Article from *Glendale News-Press* Monday, August 14, 2000 - Amber Willard

The auction was very exciting, at least for me. I didn't know whom I was bidding against; there were over a thousand people at the auction. I was seated at the front, near the auctioneer, and Ron Gerton, the eventual buyer and a very talented turner himself, was seated in the back. It was obvious that whomever I was bidding against was a determined bidder. I became so caught up in the action that, after I had exhausted Jackie's cousin's money, I was considering throwing my own money into the pot to keep bidding. Luckily, sanity returned, I was able to restrain that impulse, and the most deserving bidder won out. Ron says he is going to give the engine to his retired fire chief father in payment for "past indiscretions". (He must have been a very trying teenager.)

After Ron had outbid me (and Jackie's cousin), he was worrying about how he could get the piece in its box back to his home in Richland, WA. My ever helpful Jackie volunteered once again to transport it back to Los Angeles, if Ron would pick it up there. Ron agreed, and as a result, we got to display it for all the club members at our next meeting in August. Another advantage to this plan was we got to know Ron better when he came to pick the fire engine up. He timed his visit so he could attend our meeting in September and talk to members who had worked on it.

Ron plans to give the steam fire engine to his father as an early Christmas present during a Thanksgiving family reunion. All in all, it was a most fitting and satisfying culmination to the project.

The map below highlights the fire engine's travels. The Charlotte AAW Symposium was initially its final destination, but the trip had a lot of stops and side trips, as well as it turning out to be round trip. Booker, Texas, is where Jackie was born and has family. There's no denying the fire engine had quite a trip traveling with Jackie and me 7,886 miles through a broad array of American cities and countryside.



LA CRESCENTA — Getting a 1902 steam fire engine through the doors at the Crescenta Valley Park Recreation Center wasn't too hard for members of the Glendale Woodturning Guild — their only concern was dropping it.

The replica of the American-LaFrance engine was a little over 2 feet long and only 18 inches tall, made entirely of wood and metal, and crafted by hand.

The Glendale guild, formed in 1993 and now approaching 200 members, won a national award this summer for their handiwork. The group draws its membership from all over the Los Angeles area.

At their meeting Sunday, the group showed off the engine — crafted of various types of hardwood by 20 people who logged 1,000 hours on the project — before it goes to Seattle as a present for a former fire captain.

"We were looking for something that had a lot of detail and was novel," chapter president Bill Haskell said of the design, which won the 2000 Local Chapter Challenge Award at the American Association of Woodturners national symposium in June. The national association has more than 8,000 members.

Woodturning is the art of crafting various types of wood into finished products, such as household items like bowls, to abstract works displayed in art galleries.

The intricate engine, complete with moving pumps and wheels, took six months to create, based upon a design from a model shop.

"Many of the members whet their appetite in wood shop in school," Haskell said of the majority of the guild's members.

At the symposium, the engine was auctioned off to help fund a woodturning scholarship.

The group's project the year before, a miniature replica of a machine used in woodturning, did not place at the convention, but will go on display at the Smithsonian Institution in December.

For more information about the Glendale guild, which meets at 2:00 PM on the second Sunday of each month at the park, go to www.woodturners.org.



Reprint of the article in the Fall 2000 issue of the "American Woodturner"

GLENDALE ENGINE # 1

Group Effort Produces Extraordinary Results

BILL HASKELL

THE GLENDALE WOODTURNERS GUILD embarked on an ambitious project in January 2000: to build a model antique steam pumper fire engine. The Guild, which serves the greater Los Angeles and outlying areas, currently has a membership of approaching 200 who are interested in woodturning, learning more about it, and sharing their passion for it.

The impetus for this project was the American Association of Woodturners annual symposium in June, where a collaboration competition was held in Charlotte, NC, among the chapters from across the country. Needless to say, based on the creations of various AAW chapters in prior years, the competition from other woodturning clubs is astonishingly keen.

Our antique steam pumper fire engine is a replica of steam fire engines built by the American-LaFrance Company in the 1900 to 1913 period in an Elmira, New York factory. A team of two horses typically pulled steam pumpers like this; the heavier engines sometimes used three horses.

The American-LaFrance Company today is a wholly owned subsidiary of the Freightliner Corporation, a Daimler Chrysler company. The company had its beginnings in 1832, with the manufacture of hand-pumper wagons. In 1884, a new design was introduced that utilized a piston steam engine for pumping water. By 1888, the company was advertising this engine's superior power with the claim, "We guarantee 80 pounds of steam in five minutes from cold water." Through its 167-year history, American-LaFrance built a legendary reputation as the world's most acclaimed manufacturer of fire apparatus.

Twenty members of the Glendale Woodturners collaborated on the model. They used 27 species of wood, and most of the wood parts were turned on a lathe. Even the fire helmet on the front seat was lathe turned. All the brass parts for nozzles, hose connectors, plumbing, gauges, etc. were turned from brass. All in all, over 1,100 pieces were fabricated in creating the assemblies used to make this exquisite piece.

It's estimated that over 1,000 hours of painstaking work over six months were invested in the planning and execution process of this group undertaking. With the number of participants involved, it was a real surprise and thrill to see all the pieces come together and fit in the assembly process.

The attention to detail and the dedicated hours of so many paid off. At the AAW Symposium, woodturning attendees and other visitors marveled at the piece and they voted it the coveted and sought-after top prize! The Glendale Woodturners were indeed proud and thankful.

At the fundraising auction after the symposium dinner banquet Saturday evening, the fire engine went for the highest price of the night. The new proud owner was thrilled to claim this marvelous piece. He plans to give it to his father, a retired fire chief, for Christmas.

This is the second year the Glendale group participated in the Chapter Collaboration Challenge. In 1999, the group created a magnificent lathe, all out of wood, with parts, spindle, and faceplate turned from a delightful array of hardwoods. This piece, while it did not place in the competition that year, was very impressive and much admired. In fact, it has been donated to and accepted by the Smithsonian Renwick Gallery of the National Museum of American Art in Washington D.C., where it will be in the permanent collection. An obvious lesson learned from these joint undertakings is that a group effort can achieve extraordinary results, and sometimes at a level far greater than ever anticipated in the beginning.



Excerpts from "Woodworker West" September-October, 2000 Magazine

Turning Topics

2000 AAW Chapter Collaborative Challenge

Every year, woodturning clubs across North America undertake collaborative projects to compete at the annual American Association of Woodturners' Symposium, and we are not talking about any bowl or spindle contest. With the standard set by Chicago Chapter's bicycle in the first competition, the projects have become complex works of art, some involving motorized movements and sound.

The 3rd Chapter Collaborative Challenge at last summer's AAW Symposium in Charlotte, NC, attracted work by 25 turning clubs (10 from the West) in a fierce, yet friendly competition. This year's requirements limited the size to a 2-foot cube and less than 25 lbs. in weight. Winners were determined by a vote of symposium attendees.

The **Glendale Woodturners Guild**, which had been disappointed by the finish of last year's entry (an antique lathe, which is now in the permanent collection of the Smithsonian Museum's Renwick Gallery), approached the 2000 Challenge with serious resolve. A solicitation of the membership resulted in the concept of an antique steam pumper fire engine.

Model maker Bob Barnes proposed a replica of steam fire engines built by the American-LaFrance Company in the 1900 to 1913 period in Elmira, NY. A team of two horses typically pulled steam pumpers like this, and the engine's superior power was said to produce "80 pounds of steam in five minutes from cold water." Through its 167-year history, American-LaFrance built a legendary reputation as the world's most acclaimed manufacturer of fire apparatus.

According to Guild President, Bill Haskell, "We found the plans for our steam engine at a store (Cole's) in Ventura, CA, and modified them for woodworking, trying to stay as true as possible. Though we received several complaints in Charlotte that there were too many store-bought parts, I can assure you that every piece was handcrafted. For example, Bill Nelson made special jigs to create the spokes, felloes, and rims of the wheels, consisting of several hundred pieces; Damon Siples created the pump and engine assemblies that actually rotate; and Dave Holzberger and Dick Lukes milled the brass gauges, nozzles, connectors, and piping from scratch. Even the leaf springs that attached the carriage to the wheel axle were layered leaf by leaf. Bill Kelley was responsible for project oversight and final assembly."

And when the balloting was completed, the Glendale entry won first place, followed by the Woodturners of North Texas for their Jules Verne-type flying machine, "Around the World in 80 Turns," and the Massachusetts South Shore Woodturners for their 50 HP Gnome Rotary Engine, Circa 1909.

At the symposium banquet, a fundraising auction was held, supporting the AAW education fund. The Glendale's fire engine received the highest price of the night, bought as a surprise Christmas present for a retired fire chief (name withheld to protect the surprise - the giver is a subscriber!!!).



LA FRANCE STEAM TANK ENGINE



The American Association of Woodturners (AAW) is an organization whose purpose is to foster a wider understanding and appreciation of lathe turning as a traditional and contemporary craft and a form of art among the general public, hobbyist turners, part-time turners, and professional turners.

Nearing the end of 2000, membership exceeds 8,600 from 27 countries, with 154 local chapters.

The AAW sponsors an annual symposium, alternating locations at various U.S. regions. Officially, 1,132 attended the 2000 Symposium in Charlotte, North Carolina, where three days of workshops were presented. In addition, there was an instant gallery with more than 1,100 pieces brought by members, plus a large trade show with a variety of woodturning products on display and for sale. One of the symposium highlights was the Chapter Collaboration Challenge, where 25 chapters created and entered their masterpieces "...in a fierce, yet friendly competition."



Glendale Woodturners Guild

The Glendale Woodturners Guild (GWG), a chapter of the American Association of Woodturners, draws its membership, which approaches 200 woodturners ranging from beginners to professionals, from the greater metropolitan Los Angeles and surrounding areas.

This organization provides a forum in Southern California for those interested in woodturning. Our goal is to inspire, educate, and share with our group, potential members, interested persons, and the larger community, the technical and artistic aspects of lathe-turned work.

The GWG meets monthly and conducts about ten workshops a year led by local and imported professional talent.

This booklet has been prepared for Ron Gerton, his father Myron Gerton, plus those who contributed to this fantastic project. The booklet was compiled, edited and published by Bill Haskell. Additional copies are limited, but may be obtained from him while they last.