



THE AMADOR SAWMILL & MINING ASSOCIATION, INC.

A non-profit 501 (c) (3) organization
dedicated to preserving
the sawmill and mining history
of the Sierra Foothills in California



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A 501(C)3 TAX EXEMPT NON-PROFIT CALIFORNIA CORPORATION

ASMA NEWSLETTER
Fall & Winter, 2015-2016
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President's Report - January 3, 2016

2015 has been an interesting year, with lots of changes and new developments. It started on a sad note with the loss of Jerry Virtue. Jerry was one of the founding members of ASMA and a board member. He will be missed. A memorial was held at the sawmill this last spring and many of Jerry's family were there. His hard hat and water jug hung near his place at the mill and will in the future.

We were very lucky to receive a number of donations from Bud Lindau that came out of the Andreason sawmill. These included a fantastic 1928 Fageol truck that the restoration group is starting to restore. The current plan is to maintain its "barn find" appearance while making it fully functional. Other donations include several steam engines and a belt driven punch and shear. Still to be recovered is a boiler and two more steam engines; one is another Nordberg Corliss, and the other a Globe made in Stockton. We will be asking for volunteers to help in the recovery during the upcoming year.

<u>Inside This Issue:</u>	<u>Pg.</u>
The President's Report	1
In Memoriam—Jerry Virtue	2
Furniture Works	2
Will Work for Oil & Water	3
Emergency Shutoff for Corliss	4
The Nordberg Story	4
Lumber Sales	5
Steam for the Sawmill Saga	6
ASMA High School Program	7
Restoration Shop News	7
ASMA Restoration Patterns	9
Credits	11
ASMA Events	11

The antique truck show has moved to the Plymouth Fairgrounds and we ran the sawmill during the show. It was a big success and led to some new contacts. Scott and Gordon Ellery are Fageol collectors we met at the show and they donated a radiator and foot throttle for our truck. We will be running the sawmill at the 2016 Truck show.

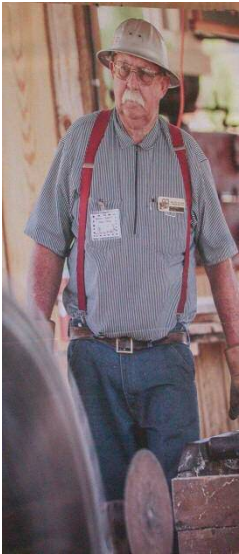
The Fair this last summer was a big success although we had problems with a runaway the week end before the fair. The details are covered elsewhere.

The restoration shop in Jackson is finally taking shape and we are at last starting to work on restoration projects. These include the second Logan lathe and the Fageol. The restoration shop now has a fully working machine shop. Ron Edgar and Jim Hall are continuing their work with students at Amador High and it once again looks like a real success. We've gotten a number of new donations, Alan Langmuir has been very generous in donating a number of his tools including a South Bend lathe, drill press, and lots of tools. Craig Catto of Catto Propellers donated a Clark Forklift. There were many other donations as well, far too many to list here.

One of the biggest changes this year was Bill Braun's decision to step down from being president of ASMA after fifteen years of service. He will still be very much part of our organization, acting as treasurer and of course involved in just about everything. Joe Harralson is the new president. There were also a number changes on the board of directors. Your new board consists of Joe Harralson, Bill Braun, Ron Edgar, Tom Innes, Brian Oneto, Ed Arata, and Jim Hall. Many thanks to past board members John Tower, Jerry Virtue, Jim Head, and Austin Ford.

Looking forward we have a lot coming up. The possible move to the Central Eureka mine site in Sutter Creek is still in the works although progress is slow. We have the steam engines and boiler to retrieve, the restoration of the Faegol truck, the ongoing school project, and lots of logs to cut. It should be a great year! Come to the Restoration shop and see what's been done.

Joe Harralson-- President, ASMA



In Memoriam—Jerry Virtue

Longtime and original volunteer Jerry Virtue passed away in February 2015

Jerry Virtue was born in Iowa in November of 1942, he was the oldest son of 13 brothers and sisters living on the family farm near Mapleton, Iowa. He lived and worked on the farm until his early 20's until moving to southern California in 1963. He soon moved to northern California and found work in the construction industry as a laborer. His hard work ethic and the ability to build anything with wood soon propelled him to rise through the ranks of the home building industry to eventually land him the position of Superintendent of Construction for Citation Homes, Northern California Division. After 26 years of dedicated service to Citation Homes he changed occupations and became a machinist for a company in Lodi, California. Once there, I think he realized his true calling, as this was the job he liked the most. His involvement with EDG&TA and the Amador Sawmill began in the mid 1970's with the purchase of a Harris engine we restored from a bean harvester in north Sacramento. I believe it was then that he was bit by the "iron bug" and thus fueled his love of historic relics and other such items. His collection of antiquities can only be described as "wow", the things he collected... Which led to the naming of the ranch as "Iron Mountain" by my grandmother. He truly loved being with people that shared his love of history, old iron and appreciation of our ancestors who built this great country with the sweat of their brow. His love of the past and the people who shared it fueled his love of the Amador County Fair and the Sawmill.

Dad was married to Marianne for 27 years until he passed suddenly on February 8th, 2015. He was a father, friend, and mentor, and he will always be known for his honesty, loyalty and trustworthiness. He is sorely missed...*Ken Fritz*

Words From The Furniture Works:

By Ken McCoy

The 2016 Fair will be the fourth time we have offered items made from wood for sale or auction. There have been some good times and some not so good times.....especially when a forest fire is near your house.

The 2015 Fair was a success with virtually all items sold to a satisfied customer at an agreeable price. We had benches, chairs, tables, toys, a handmade cask and an outdoor bar.

And so, the current plan is to continue to offer items made from our milled wood including even some scrap.....for the enjoyment of the public and the health of our bank account. We will have various items made by Ed Arata, Mel Palmer, Steve Bishop and Ken McCoy.

For the future, we are starting to evaluate accepting individual orders, to be completed in the off season. So, if your picnic table is ready to collapsewe might be able to help! In addition we have some volunteers who can build formal furniture. For more information or to share thoughts...

e.mail kmmccoy@webtv.net.

See you in July !!!!!



Amador Sawmill And Mining Association Is Looking For Volunteers

A.S.M.A. is expanding its program in steam sawmill history: Volunteers are needed to learn how to operate historical exhibits. Do you want to learn how to operate a sawmill, a stationary steam engine, a steam powered donkey engine, or wood and oil fired steam boilers? If so, contact Bill at (209) 245-3448 or e-mail info@amadorsawmill.org

P.S.—we also need volunteers to help us in Fundraising, Public Relations, Communications, Etc. too!



Will Work for Oil and Water

By Tom Innes

We have one of the few operating steam donkeys on the west coast. This is really unique situation. There are still a number of donkeys in the forests that have been left to rust away. There are few in local museums that are on display. There is a rusty one at Disneyland Grizzly River Run in southern California. Several operate on compressed air for demonstration purposes. Ours operates on high-pressure steam and can indeed work for a living. It only requires oil and water.

There is obviously more to it that. First, a bit of history: Our boiler was manufactured by C. H. Dutton Co. in February 1945. This type of boiler is called a vertical fire tube boiler. It was originally built for the armed services and was part of a floating pile driver. Typical wall thickness when new was 7/16 inch. The boiler that powers the Corliss was also manufactured by Dutton in April 1945. If you carefully examine the two, there is a difference between them. The later boiler has a vertical welded joint as part of the pressure vessel. The donkey boiler is also welded but has a riveted plate that covers the weld. It may have been a more conservative approach. Perhaps the manufacture felt the additional riveted plate was stronger than the all welded joint. Welding may not have been thought of being as reliable as a riveted joint. Operating pressure when new was 150 PSIG. The burst pressure was 900 PSIG, a safety factor of 6.



The boilers also require an annual inspection by the State of California Department of Industrial Relations. Our boilers are operated with a permit from the state. The permits are on display at the boiler location for inspection by the public. During operation, the boiler water level is closely monitored for proper level. This is the major safety check a boiler operator must continually monitor. Also, keeping the steam pressure under control is vital for safe operation, however, there is a safety valve on the boiler that will open when the boiler pressure reaches a maximum, in our case, 125 PSIG. For this boiler, an oil fired boiler, oil flow controls the heat applied and therefore the pressure of the boiler. It is the responsibility of the operator to control heat input along with monitoring the water level.

Along with boiler operation, water quality needs to be monitored. We measure the PH on a daily basis and adjust the PH. Typical PH is 11. At the fairgrounds, the PH out of the faucet is about 8. This helps to limit corrosion, which affects boiler lifetime. Corrosion reduces the boiler wall thickness. Wall thickness sets the operating pressure limits. We check our wall thickness on occasion.

After operation when the boiler is shut down, the fire tubes are “punched” with a wire brush to remove any soot generated by the fire. There are 138 tubes and they are accessed from the top of the boiler when the stack is removed. Usually there is not a great deal of soot. The wood fired boiler creates much more soot and needs to be punched on a daily basis. After cleaning the boiler tubes and firebox, the water section is flushed out and then dried. Hand holes are sealed and a partial pressure of nitrogen is started. This displaces the oxygen, reducing any oxidation that may take place in the boiler.

So, as you can see, there is more to boiler operation than just supplying water and oil. The total operation effort extends beyond the fair display for example. Care and feeding the donkey system is a fun thing to do. We welcome more volunteers to join in the fun.

Join up and become part of this.



Emergency Shut Off for the Corliss Engine

This summer we had an unsettling runaway with the Corliss engine. The Saturday before the Fair while sawing, the belt drive to the governor came off allowing the Corliss engine to run uncontrolled. Thanks to the quick action of the engine crew it was shut down promptly but not before some damage was done. The engine was knocked out of alignment and a sheet metal pulley on the saw arbor drive shaft exploded with pieces narrowly missing people.

Fortunately no one was injured and repairs were made in time to run the Corliss during the Fair with no further problems. The incident did alert us to the real danger that a runaway presents. In response we've taken a number of steps to prevent a similar mishap. The Corliss seems to have shifted on its foundation due to heavy loads during sawing, enough for the governor belt to run off its pulley. To prevent this from happening again, cleats were welded onto the support frame and the frame is being grouted onto the foundation.

An emergency stop valve has been purchased and is being installed. It will allow for either a manual shutoff of the steam to the engine, or an automatic shut off due to over speed.

Special thanks are due to Richard Hansen and Barbara Kreiss who made generous donations that enabled us to purchase the shutoff valve. Thank you from all of the ASMA board and volunteers.

Joe Harralson
President ASMA

The Nordberg Story

Chapter One—How ASMA Acquired the Engine
By Bill Braun

Before the Amador Sawmill became an incorporated non-profit association in February 2000, a group of volunteers had been helping run maintain and learn about the historic sawmill at the Amador County Fairgrounds each year. This group was first comprised of members from Branch 13 of the Early Day Gas Engine & Tractor Association. That organization had been and still is to this day exhibiting their early gas engines and tractors at the annual Amador County Fair.

In 1993 Bill Braun, Jerry Virtue and John Tower from Branch 13 joined Rolland Matson, his sons and friends in operating the sawmill during the annual fair.

A few years before, Bill and John had each purchased antique steam tractors manufactured in the years 1910 and 1906. These engines alternated in powering the sawmill from 1993 to 2006. Before the steam tractors, a gasoline fed Dodge industrial engine was the power source from the early 1970's to 1993.

Sometime in the mid 1990's, the volunteers (more had joined) started talking about finding and installing a permanent stationary steam engine and boiler to power the sawmill. One thing lead to another (rumors, junk, pieces and parts) when in the spring of 1997, Jerry got a lead on a possible candidate in Mendocino County—the engine was sitting out in the woods in the Coast Range mountains. After making contact with the owner, Jerry and Bill trekked to a remote mountain ranch in the lush evergreen forest. After inspecting the engine, they determined that it was indeed of sufficient size to power the sawmill. The engine was rescued from the scrappers years before, but was very worn, in rough shape and missing many parts of the linkage to the steam admission and exhaust valves. The owner had lost interest in restoring it, and wanted to sell to someone who could. On the second trip to the owner's ranch, Jerry cut a deal for the purchase. The \$2000 purchase price was split equally between Jerry and Bill. The engine was later donated to the newly formed Association in 2002 by Jerry and Bill.

A follow up trip with the volunteers was made with 2 trucks and equipment trailers to bring the engine and parts to Jerry's shop near Wilton, CA.

Continued on Page 5



Continued from Page 4



Bill started researching the history of the Nordberg Company and found that they had closed their doors in 1975-76 after 91 years of doing business in Milwaukee, Wisconsin. Collecting antique books and gathering information by corresponding with men who had previously operated these types of stationary steam engines helped Bill understand the evolution of the 19th and 20th century technology leading up to 1904, when this engine was manufactured.

Starting in 2002 the engine parts were moved to Bill's newly constructed large shop building. There the engine was slowly reconstructed on a temporary supporting steel framework. Many problems were encountered in the rebuilding. The cylinder was bored out and a new piston was machined from malleable cast iron with a custom made piston ring fitted for the new piston diameter. The crankshaft journals were lathe

turned and polished to remove uneven wear and score marks. This required crankshaft main bearings to be poured and machined to fit the journals. The engine frame main bearing was originally configured in four separate segments, but one of the segments was not original and did not support the crankshaft as required. A new segment was made on the milling machined to fit and lined with Babbitt. The engine was slowly coming together.....*to be continued.*

ASMA Lumber Sales Update

By Ed Arata

The ASMA had a good run this year at the Amador County Fair after a rough start the week before with "Engine Problems". The sawmill crew cut large amounts of lumber for orders on hand and lumber to put in storage and drying for future ASMA projects and random purchases. We had an excessive amount of lumber in the hanger after the Fair, so we attempted to do some marketing via Craig's List. The lumber was inventoried and divided into salable units and posted on line. This generated some inquires and then some sales. Since the Fair random purchases and orders for specific lumber have accounted for total lumber sales for the year of \$7961.00 ASMA lumber was produced this year using both steam power and gasoline engine power from the old Chrysler Hemi-Engine which was reinstalled by Bill and other crew members.





STEAM FOR THE SAW MILL or PILEBUTTS TO DONKEY PUNCHERS

How two San Francisco Bay pile drivers became part of Living History in Amador County.

As Told By Tom Innes and Alan Langmuir

In the previous newsletter, we told how our barge loaded with steam boilers passed under the Carquinez bridge, but we found that the Benicia railway bridge was still closed: Reality set in and it became clear we were not going to finish the trip without an overnight stay along the way.

Here we are continuing the story as written in the 2004 Booklet “*Pilebutts to Donkey Punchers:*”
Installment 5—Spending the night at an old Port Costa Pier

The railroad bridge at Benicia was still closed. The tide was really working against us and the lighting along the shore was at best confusing. A decision was made to find a pier somewhere and tie up for the night. There was a broken down pier abeam Port Costa, so we made our way to it and moored. Not without a lot of difficulty, however. The underpowered tugs and the Reality set in and it became clear we were not going to finish the trip without an overnight stay along the way. tidal action made this a special challenge for Mark, who is a really competent tug driver! Between Mark, Rich and Bill, we successfully docked our strange looking vessel.



After securing our rig for the night, we finished whatever we had brought along to eat. Not much left. The trip was supposed to be over by now. We had planned to arrive in Pittsburgh late evening where John Tower would pick us up and take us back to Plymouth.

Sleeping accommodations were non-existent. There were several old office style chairs and that was about it. The delta was cold at night in mid- April. A couple of us tried sleeping on the desk chairs. Bill found a bunch of old rags and put them on the floor next to the donkeys. So far, so good. Mark and Rick split time in the engine room of the tugs or in the wheel house.

Port Costa is a pretty lively place for upscale East Bay residents. It is a funky little town with some interesting places to visit. But here we were, moored off a pier OSHA would have condemned during the dark ages. So we settled down for a good night's sleep.

Or so we thought! The main Union Pacific line ran right along side our berth, rumbling by what seemed like every 30 minutes, waking us up. Not only that, there was a grade crossing about 50 feet from us so the whistles blew all night whenever a train passed by. And the headlights of the locomotive would sweep through the wheel house where we were camped out just to be sure we were still on our toes.

About five in the morning, we heard a yell from Bill that he needed help. The tide had run out, the river level had dropped several feet, and the barge and dock relationship had changed for the worse. The ropes securing the barge to the dock were under strain and the guys to the masts were being compromised and threatened to pull the masts down. With a great deal of effort and skill on the part of Bill and Mark, we were able to work our way out of this. The barges were stabilized and we waited for the flood tide to help us on our way.

By now the Benicia Bridge had been put back into service so we could get on our way. This part was really fun.

To be Continued.....



ASMA High School Machine Shop Program

By Jim Hall

It's hard to believe but we are half way through our third year working with Ryan Mendosa and his Amador High School Ag Shop students. Ron Edgar and Jim Hall work with the students 2 days each week with Bill Braun filling in when Ron or Jim have to be absent. This year's student crew members are seniors Rich Bohn, Chris Dayton, Brodie Diaz, Spencer Hetteema, Chris Murray, and junior Noah Reilly. This year's projects include: Buffalo Forge bench shear, wood cutting band saw, Dayton power hacksaw, mall Craftsman table saw, mini metal lathe, and an antique bench top drill press. Most of these tools have been donated to ASMA for use in this program.



The end goal with each of these projects is, not only to completely restore the machines, but also to enter them in the Amador County Fair. Students are expected to, not only complete the restoration, but also to completely document the process and produce a presentation as part of their fair entry. After the fair is over, students, if they so choose, may keep the machines.

So what's new? A few years ago the ASMA restoration crew determined that students in the school program did not have an opportunity to experience much in the way of precision machining. The school simply did not have the equipment so it was decided to see if a solution could be found. Two years ago ASMA received a donation of 3 Logan 14 inch metal

lathes. The first of these machines has been restored by ASMA's restoration crew and moved to the school shop. The second of these machines is currently being restored and will also be moved over to the school in late spring. In the meantime, a 9 inch South Bend lathe, another donation to ASMA, has been temporarily placed in the shop. So, ASMA's little machine shop in the corner of the old high school auto shop has created a greater level of excitement and motivation by the participating students. It is sad when we remember that 30 years ago nearly every high school in California had a metal shop offering these opportunities to all students but today a very, very few do.

Restoration Shop News

2015 The year that was

By Ron Edgar

2015, what a great year it was for the Restoration Department. It's been my pleasure to work with a great group of guys who really know how to get things done and do it well. Missing from the above picture is Jim Hall. We do have others that join us from time to time but these gentlemen are the backbone of our team.

Our biggest accomplishment this year was moving into our own building. Don't get me wrong, we really appreciated and enjoyed working at Bill Braun's work shop. It's like leaving home for the first time where you have been totally dependent on one person and now we have our own identity. When I say "we" I mean the entire Amador Sawmill Association. This workshop is for everyone to utilize and enjoy. We meet every Wednesday at 9 AM, so "come on down" and enjoy this time with us. Speaking of the workshop, it is located in Jackson at 645 N. State Hwy. 49/88.

Thanks to all who attended our Open House which was held on Jan. 9, 2016. We had a good crowd and enjoyed showing off our equipment and facilities. Those of you who couldn't be there are welcome any time to stop by and check it out. *Continued on Page 8*



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Continued from Page 7

A large part of last year was spent setting up the facilities. Everything we own tends to be big, heavy and bulky. None of our equipment moves easily and as each piece is placed in its location, it's not just "plug and play", we've had to run power to all of this specialized equipment. Limited resources have made us thrifty and we have been able to set up our shop with very little money spent. We have been resourceful (begging and pleading) in getting help from our friends and ASMA volunteers. Thanks to everyone who has lent a hand or contributed something. It is very much appreciated.



The Restoration Team:

Mel Palmer Ron Edgar David Lindquist Alan Langmuir Bill Braun Joe Harralson Erik Lander

Projects:

1. The 14" Logan Lathe (when finished), will go to the Amador High School, where we are teaching students how to operate a lathe and restore equipment.
2. We will be cleaning up a LeBlond (Dual Drive) Lathe and preparing it for resale, as well as some excess horizontal mill tooling. The monies from this machine and tooling will go toward the rent on our new facilities. We intend to raise enough money by restoring and selling equipment that we can offset the cost of our rent for the entire year.
3. The Fageol 1928 "Golden Bear" truck is on our close range radar. Lots of work needs to be done to this magnificent vehicle. We intend to have it at the fair this summer.

So, here's where you come in. We have more projects than we have the manpower and time to do them. Why don't you join us? Our Wednesday workdays are a good excuse to have donuts and coffee with friends while we are saving a historical piece of equipment for future generations to enjoy. We are also looking for people to help out with our school program. Stop in and check us out, you might like what you see.





Pattern Making for ASMA Restoration Projects

How it is Done

By Joe Harralson

The core activity of ASMA is the sawmill and mine display at the Plymouth fairgrounds, but we are also involved a wide range of related activities. One of these is the restoration and maintenance of historic machines and equipment.



Steam arm for the Corliss engine showing brazed repair

Replacement parts are almost never available for the antique machines we work with. That means we have to fabricate parts as we need them. One method we use is to make a pattern and then have the part cast. These parts usually have to be machined as well.

Pattern making is one of the lesser known skills we seek to preserve. From time to time the newsletter will cover some of these skills and illustrate how we use them. Pattern making is not a sawmill or timber harvesting skill, but it was a skill used to provide the repair parts and new parts for the local timber industry. At one time Amador County was home to many small machine shops and foundries, certainly the best known was Knight Foundry in Sutter Creek. These shops provided equipment and repairs for local mines and sawmills. Some repair work was done on site by the mill or mine but more complicated work like casting and pattern making was the work of specialty shops.

A pattern is a replica of the metal part to be cast, but made from material more easily formed, usually wood. Castings are typically complex in shape and cannot easily be machined from a solid piece. Patterns are made by cutting simple shapes and then joining them to form a more complex shape. The material used in this area for patterns was most often local sugar pine.

To make a casting a mix of sand, water, and clay is packed around the pattern forming a mold. The sand is held inside an open ended box called a flask. The flask is usually in two halves so that the mold can be opened and the pattern removed leaving behind a cavity. The pattern can then be used to make as many more molds as needed. The mold is then closed and molten metal poured in through passages provided for that purpose. When the metal solidifies and cools the sand mold is broken apart to remove the casting. The sand and flasks can be reused but a new mold is made for each casting.

A pattern differs from the final cast part in a number of subtle ways. As the metal solidifies in the mold it shrinks, so that the final casting is smaller than the pattern. For this reason the pattern is made larger than the desired part. The traditional way of doing this is to make all the pattern measurements using a "shrink" rule. A shrink rule is marked like an ordinary rule or scale but the actual dimensions are larger. For example a ¼" shrink rule is actually 12 ¼" long.

In order to easily remove the pattern from the sand mold it has to have a small amount of taper to it, typically 2 to 3 degrees. The pattern maker has to determine how the mold will be split to remove the pattern, which is called the parting line. The parting line determines which direction the pattern tapers.

Continued on Page 10



Start of the pattern for a new steam arm



Further progress on the steam arm pattern



Continued from Page 9



Finished steam arm pattern. The pattern is split at the parting line to make molding easier.

Hollow interior areas of a casting are formed by cores, solid pieces of sand and a binder, which is first formed in a core box and then inserted into the mold. A core box is a wooden mold used to form the shape of the core. Provisions often have to be made on the pattern to provide support for the cores in the mold. Extra material also has to be provided on the casting for those areas that will later be machined.

Making a pattern starts with planning the details of how the mold is to be made including draft, parting line, and cores. Some typical patterns made for ASMA projects are shown in the following pictures. Work starts by resawing the rough sugar pine into suitable sizes using a band saw. A pattern is made by shaping smaller pieces using the band saw, disc sander, spindle sander, and lathe. These fairly simple shapes are then glued together to form more complex shapes. Some hand work with chisels and files is needed to round corners.

because as the metal solidifies in the mold it shrinks and is also very weak. Sharp interior corners will crack under these conditions so the interior corners have large radii, typically equal to the thickness of the adjacent material. Fillets were traditionally made from leather strips glued in, but we tend to use polyester resin because it's cheap and easy to work. Once the pattern has been made and the fillets applied it is then sanded and painted. Finally it's off to the foundry to have castings made.

An essential feature of casting is the use of fillets on all interior corners. Exterior corners are usually rounded off as well. Fillets are necessary

The final castings usually need to be machined after casting. Only those areas which need a better surface finish or more accurate dimensions need to be machined. The remainder of the casting can be used as cast. This gives as authentic a reproduction as possible, saves a lot of machining time, and reduces the amount of waste. The pattern can be used to make as many castings as needed.



Casting for two steam arms and trip levers. Holes through the steam arm castings were formed by cores. Core prints on the pattern locate the cores in the sand mold.



*Left: The finished trip shaft pattern with two brass castings
Right: Casting being turned on the lathe*





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Photos Courtesy of: Page 2-Phil Kreiss, Ken McCoy, Steve Bishop. Page3-Phil Kreiss. Page 5-Bill Braun, Ed Arata. Page 6-Tom Innes. Page 7-Ron Edgar. Page 8 Ron Edgar. Page 9, 10-Joe Harralson. Page 11-Phil Kreiss

Contributing Editors: Page 1-Joe Harralson. Page 2-Ken Fritz, Ken McCoy. Page 3-Tom Innes. Page 4-Joe Harralson, Bill Braun. Page 5-Bill Braun, Ed Arata. Page 6-Tom Innes, Alan Langmuir. Page 7-Jim Hall, Page 7-8-Ron Edgar. Page 9, 10-Joe Harralson.

Production: Phil & Barbara Kreiss

Upcoming Events:

DATE	TIME	EVENT
March 5, 2016	Throughout the day	ASMA mobile machine shop will be displayed at the Kennedy Mine “Amador Day” open house.
April 30 ^h , 2016	Throughout the day	Truck show at the Amador County Fairgrounds—Sawmill in operation.
July 28-31, 2015	11 A.M. and 3 P.M.	Amador County Fair—Sawmill in operation—2 shows daily, plus night shows on Fri. & Sat. at 8 P.M.
Twice a Month On Wednesdays	Contact Ron Edgar For Times	MACHINE RESTORATION GROUP Workdays—Contact Ron Edgar at: 4edgars@msn.com
2 nd and 4 th Saturday of each month	8:00 A.M. to 3 P.M.	Volunteer Workdays at Sawmill. For information contact Bill Braun at: bbraun@hughes.net



Amador Sawmill And Mining Association Is Looking For Volunteers

A.S.M.A. is expanding its program in steam sawmill history: Volunteers are needed to learn how to operate historical exhibits. Do you want to learn how to operate a sawmill, a stationary steam engine, a steam powered donkey engine, or wood and oil fired steam boilers? If so, contact Bill at (209) 245-3448 or e-mail info@amadorsawmill.org P.S.—we also need volunteers to help us in Fundraising, Public Relations, Communications, Etc. too!