

# Rocky Forge News

Volume 4, issue 7 – July, 2005

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**I am interrupting this holiday (auto industry summer shutdown) to bring you a newsletter that I thought I would get done last week. Included is a flyer for the Illiana Steam and Power show and a reprint of safety/death notice from the IBA.**

## Next Meeting:

There will be no planned meeting for the Rocky Forge group for the second Saturday of July. However, we will meet at the Illiana Steam and Power Show grounds for the annual show on July 15, 16, 17th. Set up will be on Thursday, July 14th. This is always a good weekend for us all to pound out the metal. Bring your forges, anvils, tools and iron. Make whatever you want or just putter around showing people what blacksmithing is all about. Be safe, courteous and enjoy the weekend. I hope to see a good turnout of you guys that weekend. If you need anything let me know.

We are pushing the sales of Millermatic welder raffle tickets. Thus far we have sold enough to pay for the welder so from here on its profit. Please help.

Jim Keith will have T-shirts available at the show. This will be our first opportunity to buy the shirts and hats with our new logo. Thanks to Jim and Jeff R. and to others who had a hand in this project. It is always a good feeling to see a project you are involved in come to fruition.

## Last Month's Meeting

The June meeting was at the Independence Blacksmith Shop June 18. There were four forges besides the inside forge and usually about six smiths.

Shane forged a stack of plates into a billet and then twisted and folded it before forming a knife. The pattern was impressive even without polish and etch. That was a lot of work and sweat and I know that few of us have the strength, endurance or skill for such a project

in the few hours that Shane used. It was quite a demonstration.

## Projects

The West Point cemetery arch is really progressing. As of this writing we should begin welding it together in a couple days. Thanks to Dominick A., Gene H., Russ N. and Ted S. a lot of work has gone into this project. There is still a lot to do. So if you have time, please call to see what can be done.

Another project coming up is work on an Allis Chalmers WD tractor and plow donated by our member Dick Fontaine as a fund raising project. Please thank Dick, as this should raise our treasury several hundred dollars.

## Future Activities

- Illiana Steam Show plans, July 15, 16, & 17 with work to set up on the 14th. Volunteers needed.
- Skinner Farm Museum Steam and Gas Show August 20 & 21, Perrysville, IN.
- Shane's MedievalFest - October meeting.

## Projects with continuing reports: Newsletter

I have been talking to Jen Hayden, editor of the IBA newsletter about what we can do to reduce the cost of printing and mailing both the IBA and Rocky Forge newsletters, The IBA does not always have enough pieces to use a permit and we are a long way from it. But together we would always have enough and the postage would be about a dime a newsletter and the I think we could reduce the workload on Jen and my printer, which is dying again. So far all I have managed is research. If you know more than I do or know a friendly printer, any help would be appreciated.

### **Bloomery**

I have wanted to try my hand at making iron. I have ore of varying quality in the creek at the back of my place. I have wanted to try ever since I bought this place. I have books on making various furnaces for the job but have not tried any. Darrell Schultze has talked about such a project and I am willing to help in any way I can. Everything I have seen looks like the main problem is that refining iron takes a huge amount of fuel and many pounds of ore.

I still need some barrels with lids for making charcoal fuel.

### **Announcements**

The Rocky Forge News is now available by E-mail as well as on our website (<http://www.rockyforge.org/>). If you wish to receive the newsletter via E-mail sent Dave Childress a note at [trollkeep@ccsdana.net](mailto:trollkeep@ccsdana.net), or write directly to the guild at [rocky@rockyforge.org](mailto:rocky@rockyforge.org).

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**JULY 15, 16, 17 - 2005**

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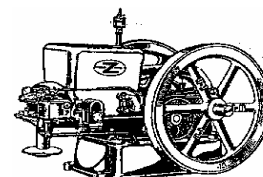
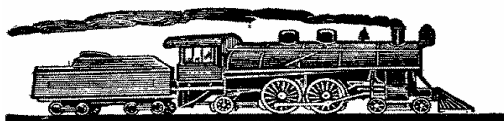
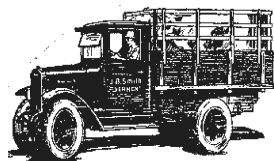


visit our website at "[www.illianaantiquepower.com](http://www.illianaantiquepower.com)"

**Club show grounds in the Pine Creek Valley, 8 miles south of Boswell, IN  
or 12 miles north of Attica on U.S. 41, then east on Warren County Road 650**



Steam engines, tractors, gas engines, DAILY PARADE, binding, threshing, combining  
blacksmiths, corn shelling, sawmill, plowing, miniature trains, old cars & trucks  
farm animals, ladies activities, church service, food, raffle, tag sale, flea market



**Gate Fee \$3.00 daily**

FOR INFORMATION CONTACT:

General:	<b>Terry Bodine</b> - (765) 294-2768	"steamers@localnet.com"
Tractors:	Pete von Stein - (765) 538-2169	"vonstein@tctc.com"
Flea Market:	Carol Stout - (765) 572-2467	"stout8525@wptc.us"
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## SAFETY - III : A Case study Death by Metal Fume Fever

Posthumous Demonstration by Jim Paw-Paw Wilson  
<http://www.pawpawforge.com>  
May 13, 2005

This is the second safety demo by Jim "Paw-Paw" Wilson based on real life events. Sadly this will be his last. We are presenting it the way he would have wanted.



Paw-Paw 1940 - 2005

Well folks. This is a hell of a way to do a demo. I did something stupid that I knew better than to do, thinking I was tougher than a little smoke. Well, I miscalculated and now I am dead.

My friends will have to finish this for me. . .

Sheri, I love you. Please forgive me.



Figure 1

We will never know what Jim was thinking that day. He was probably just trying to get a job done the quickest easiest way he knew how.

The parts to the right were 2.5" galvanized pipe. They were to be welded up as part of a stock rack we think. To weld them they needed the galvanizing removed.

Jim burned off the zinc in his gas forge.



Figure 2

Burning zinc looks similar to burning magnesium. It flares off white zinc oxide smoke and leaves heavy soot like yellow and white oxide deposits where the smoke cools. In the metal working shop we are often exposed to small amounts of zinc smoke without ill effect. It is common in brazing, casting brass and occasionally welding.

However this was not a small amount of zinc smoke. It was thick enough in his well ventilated shop that Jim wisely sent his helpers outside. Why he stayed we will never know.



Figure 3

There was so much zinc that it reacted with the refractory lining causing the ITC-100 coating to flake off. Around the door gasket area there were 1/16" thick deposits of zinc oxide. There is no question that Jim was exposed to significant amounts of zinc oxide smoke as he removed the flaming parts from the forge and quenched them.

Two weeks later when the forge was fired up it was still generating zinc smoke and fumes.

**JOCK D:** After this event Paw-Paw was very ill for a couple days. He thought he was over it and went on a road trip. A week after the exposure he came down with double pneumonia and had to be brought home. A week later he was dead. Prior to this Paw-Paw had problems with emphysema and this is a factor in his case. However, metal fume fever can kill the young and healthy or leave lasting effects.

JASON DUNCAN: Today is Friday May 13, 2005. I am a blacksmith for a fabrication shop, and have many friends in the same profession. One of my friends is a man called PAW PAW. His real name is Jim Wilson, and he passed away today.

He no longer suffers from health problems. He no longer feels pain. He no longer feels anguish. He never seeked fame.

A crusty old blacksmith from Winston Salem N.C. Has gone to his reward. For he truly was the salt of the earth, the light that led the way for so many, A loving husband to his wife Sheri. A devoted father and foster father, and a faithful friend.

His passing has brought the smiths around the world together in mourning. From the first time newby, to the skilled master. The most active blacksmithing website anvilfire.com has had numerous posts concerning the passing of Paw Paw. As has Forgemagic, and lforgeiron.com and other non-blacksmithing sites.

He was laid low by Metal Fume Fever. Here is what I found on the subject.

### 3-Respiratory System :

Most zinc salts irritate mucous membranes of the upper respiratory tract after inhalation.

#### a-Zinc chloride :

Inhalation of zinc chloride may cause :

- cough,
- dyspnea,
- adult respiratory distress syndrome, death, resulting from delayed pulmonary vascular fibrosis.

Ten deaths and 25 cases of non-fatal injury occurred among 70 persons exposed to high chloride concentrations of zinc chloride released from smoke generators. Of the 10 fatalities, a few died immediately or within a few hours with pulmonary edema, whereas those who survived longer developed bronchopneumonia. On dissolution of zinc chloride, both hydrochloric acid and zinc oxychloride are formed, contributing to the corrosive action.

b-Zinc oxide : Inhalation of freshly produced zinc oxide can produce metal fume fever.

From <http://www.digitalfire.ab.ca/cemat/education/291.html>

Basically what zinc does is, it causes the bodies natural defenses to go into overdrive. Thus the same as other heavy metal poisoning. This has been called in the past "Monday Morning Fever", "Brass Fever", "The Brass Shakes", "Foundry Flu", ect. . .

The flu-like symptoms do not generally cause alarm. But if you experience any flu-like symptoms after welding a plated material. "SEEK MEDICAL ATTENTION IMMEDIATELY!!" You may have been welding something that can only make you sick, or you may be dying and not even know it. Such platings can include things like cadmium. Cadmium when welded is extremely dangerous. Breathing the fumes WILL KILL YOU.

Jim Wilson was doing a project that made him sick. After the sickness he died. Jim Wilson's family lost a husband and father. The anvilfire group has lost a friend and mentor.

PLEASE be forewarned that welding plated material is extremely risky, and if you do not have the equipment for ventilation of a shop I would suggest that you do not do it.

Jason Duncan

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PAW-PAW:

I found this posted on another site. I think it's important enough to post here.

### **Welding Hazards**

In confined spaces, welding can be much more dangerous. With less fresh air, toxic fumes and gases can be much stronger. Shielding gases, like argon, can displace the oxygen and kill you. These are some of the

hazardous materials:

## METALS

- Stainless steel contains nickel and chromium. Nickel can cause asthma. Nickel and chromium can cause cancer. Chromium can cause sinus problems and "holes" between the nostrils.
- Mild steel (red iron) and carbon steel contain manganese. Manganese can cause Parkinson's disease, which cripples the nerves and muscles.
- **Zinc in galvanized metal or in paint (on welded surfaces) can cause metal fume fever. It feels like the flu and goes away in a few hours or days after exposure ends.**

## COATINGS and RESIDUES

- Lead (in some paints) can cause lead poisoning — headaches, sore muscles and joints, nausea, stomach cramps, irritability, memory loss, anemia, and kidney and nervous system damage. If lead dust goes home on work clothes/shoes, it can make your family sick, most of all your children.
- Cadmium (in some paints and fillers) can cause kidney problems and cancer.

## SOLVENTS

- Welding through or near some solvents can produce phosgene, a poisonous gas. The gas can cause fluid in the lungs. You may not notice the problem until hours after you quit welding. But fluid in your lungs can kill you.

## GASES

- When carbon dioxide is used for shielding, carbon monoxide can form and kill you.
- The welding arc can form ozone and nitrous oxides from the air. MIG and TIG welding make the most ozone, most of all when aluminum is welded. These fumes irritate the eyes, ear, nose, throat, and lungs and can damage the lungs.
- Nitrous oxides can cause fluid in the lungs.

Paw Paw Wilson - Friday, 04/07/2000

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### MP (01/12/02) PETE F (01/14/02): **Heating Galvanized Metal:**

Be very careful of heating galvanized products. Burned zinc gives a toxic vapor that can make you VERY ill (even in a well vented shop). Before I knew of it I gave myself zinc fever (a form of heavy metal poisoning). It feels kind of like a bad flu. The effects are cumulative and once you have had it, if you are exposed YOU WILL GET IT AGAIN and a worse case. Welding galvanized metal and in some cases over heating brass along with brass grinding/sanding dust can also poison you. To be safe soak the part in muriatic acid overnight (to remove the zinc) and then then rinse with water. You may want to neutralize the acid with baking soda, then treat it as any other part.

MP

### **Zinc shakes:**

I'll second MP on this. It is cumulative and really vivid! That is the short term effect, emphysema is the long term. Grimm stuff. I had my worst round of metal fume fever with projectile vomiting and \$\$\$ at \$\$\$ at # on a 15 second cycle for hours.

Pete F

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### ARRON CISSELL: **More Real Life:**

#### **LEAD Pb, Plumbum**

I would like to add one metal that is not listed above and is also very dangerous. Lead. I used to make fishing lures (Pro-Line if any of you have used them). When the Lead was at the correct temperature there was no problem as the OSHA approved ventilation was more than adequate.

The guys that did the pouring and molding wanted to get their numbers up. They turned up the heat on the Lead allowing them to pour an extra mold per casting cycle. This caused a heavy gas that OSHA simply called Lead Vapor. This resulted in four of our workers ending up in the hospital being treated for heavy metal poisoning. All but one fully recovered. My friend Alex Mendoza now suffers extreme daily headaches, joint pain, and memory problems. He also has had a major change in his overall demeanor and is now easily irritated at/by people, objects and situations. He is now disabled and has not been able to hold even a part time job to help make ends meet.

This same issue happened to another friend but not as severe. He works on high performance wheels. He was heating a specially made wheel to change the bead angle when he "suddenly smelt something funny, got dizzy and dropped to the ground." The hospital stated that it was heavy metal poisoning caused by Lead. After hearing this his boss inspected the wheels and found that Lead was used to fill and weight the bead. He had massive headaches for almost six months afterwards.

Please be careful around Lead especially when melting or casting. OSHA approved ventilation is not sufficient if lead vaporizes. This can cause serious and permanent health problems.

Arron Cissell - 06/02/2005

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-GURU: NOTE: The day that Paw-Paw was brought home and hospitalized we had a letter from a mother about her son's zinc fume fever. He had been exposed at work welding in a meat packing plant. He had no training, no warning and the employer took no responsibility. Luckily he was young and strong and hopefully learned a valuable lesson.

About once a year I get a letter from a wife, mother or sister wanting to know what is making their men sick. Most often they have debilitating liver disease or mystery ailments after a life time working as a welder. Some have been employed in industry. Some have been self employed. When the illness is caused by heavy metal poisoning there is no cure.

HEAVY METAL poisoning is almost always misdiagnosed and not treated. If you KNOW you have been exposed to possibly harmful metal dust, fumes or vapors, INSIST on being tested for metal poisoning and explain why.

THINK when you are working. Consider the repercussions. Be safe, live long.

*-guru*