

# Rocky Forge News

Volume 12, Issue 2 – February 2013

## Next Meeting (2/9/13) “Cabin Fever” has set in!!!

Some of you have expressed not being able to forge in the recent cold spell. Well guess what, this Saturday’s weather is looking real good for outside blacksmithing. We were going to have an inside program, but with a warmer day prediction we need to have open forge time.

To make it even better, we will have a pot of bean soup on an open fire, so bring something to go with the soup. Cornbread, cheese, bread, cold meat, fried potatoes (any volunteers for that one?), fruit and other healthy options are welcome.

We did very well with iron in the hat last month and one member gave a generous donation to the guild-building fund. We appreciate such wonderful gestures. That enclosed building with blacksmithing, woodworking and machine shop tools just keeps getting closer.

Along with your ideas, be sure to bring some coal, metal and tools to work with. Show and tell is always fun, so bring what ever you want to show.

Doughnuts and coffee will be ready at 8:30 so come early for the social time before we light the fires.

Ted

## An Afternoon of Fun in the Shop (3/17/2013)

On March 17, 51 years ago, Carol and Ted were married and by golly it did last. On that date this year, which is a Sunday, we are planning an afternoon (anytime after one will be fine) of fun in the shop with both Rocky Forge and Illiana Antique Power members with a pitch in dinner at 6:00. Carol and I will furnish the dinnerware and drinks (if you want soft drinks, bring your own). This will be an informal open house for all to enjoy snacks, social time and a pitch in meal. At 3:00 we will be showing a video that KJ has provided and it shows life in Norway back in the 1930’s or 40’s. It is a really neat showing of how hard the work of everyday life was back then. It lasts about 45 minutes. We hope to see a good crowd.

Ted and Carol

## Myers Dinner Theater

The Myers Dinner Theater at Hillsboro (west of Crawfordsville) has been at it for many years, bringing entertainment to a new level for this sleepy town of 600 (plus a few old sore heads). On the night of February 15th they are presenting the musical “Singing in the Rain” with no other than Dan and Margie Michaels’ son Keith starring in the show. Some of us are planning to attend the evening show of February 15th. If you are interested call 765-798-4902 for reservations. They usually have a very nice home cooked meal and the show will sell out fast so call soon if you are interested. Ted



What a bunch at last meeting!



Connor Jones and Matt Houppert made a cheese cutter.



The Jones and Houppert Cheese Cutter

## The Versatile Blacksmith

### *Tips for the Other Stuff We Do*

*By Roger E. Davis*

Most modern blacksmiths end up doing at least a little machining, even if it's just drilling holes with a drill press. Looking up the proper cutting speed every time is a pain, but running too fast can cost you an expensive tool. There is a very simple rule you can use, and it's short enough to put on a note card near your machine(s).

If you look up cutting speeds in *Machinery's Handbook* or some other reference, you'll find a range of speeds specified for each material:

Steel: 30-140 ft./min. (depending on alloy & temper)  
 Stainless Steel: 30-140 ft./min.  
 Aluminum: 600-750 ft./min (!)  
 Copper: 100-110 ft./min.  
 Cast Iron: 20-180 ft./min. (low values through scale)  
 Brass: up to 350 ft./min. (!)

The problem is calculation of the cutting speed in feet per minute when all you know is the cutting diameter and the work or cutter speed in RPM. The trick to simplify this calculation is a simple equation:

$$\text{RPM} \times \text{diameter} = 300$$

The diameter here is the diameter of the rotating cutter (end mill, drill, etc.) or the diameter of the work piece if you're turning in a lathe, and it must be in inches. Regardless of how you get there, if speed times diameter is 300, you've got about 80 feet per minute (actually 78.5). A ¼" drill bit at 1200 rpm is moving the same speed at the cutting edge as a 3" hole saw at 100 rpm or a 4" side mill at 75 rpm.

Use the 300 value for mild steel, copper and brass (which actually runs much faster without problems). You can easily go 2 to 3 times faster with aluminum (lots more, actually, but heat can be a problem). For tough stuff like stainless steel and tool steel,  $\text{RPM} \times \text{D} = 200$  (52 fpm) is a lot safer. You can usually get away with  $\text{RPM} \times \text{D} = 400-450$  on steel with a single point tool in a lathe or fly cutter, and mist or flood lube lets you get away with about that speed with an end mill. Fine-point tools don't have enough heat conduction area to get rid of the heat, so you have to stick to the lower number. Bigger drill bits seem to have more trouble with too much speed than smaller ones do, so be cautious with them (too slow is better than too fast with a big expensive bit). The values given here are generally slower than handbook values, but have proven reasonable with HSS tools and spotty lubrication.

## Interesting Web Sites

**Blacksmithing classes at Conner Prairie!:**  
<http://www.indianablacksmithing.org/>

**The Woodwrights Shop: Iron Work for Timber Work (with Peter Ross):**  
<http://video.pbs.org/video/2178676894>

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**Web Site:** <http://www.rockyforge.org/> (previous newsletters can be found here).

## Dates to Remember

**February 9, 2013:** Rocky Forge meeting

**February 15, 2013** "Singing in the Rain" starring Keith Michaels at the Myers Dinner Theater

**March 9, 2013:** Rocky Forge meeting

**March 17, 2013:** An Afternoon of Fun in the Shop at Ted and Carol's

**ABANA's 1st Convention**  
 To Celebrate ABANA's 40th Anniversary  
 March 15-17 2013  
 Columbus GA Convention Center and  
 Westville Village, Lumpkin, GA

