

Rocky Forge News

Volume 7, issue 2 – February, 2008

Meetings

By Ted Stout

Last month's meeting was arranged and hosted by Rob and Deanna Durrett. For those of you who missed this meeting we are sorry because it was a very good day. Most of us had no idea about building gun turrets for the Navy or that Ropkeys' collection was so well presented and large. We had 25 in attendance with a great pitch in meal at Rob and Deanna's house; hats off to those two for such a great day.

Our next meeting, for February 9th, will not be at Ivy Tech because our host has made other commitments for the day. Instead we will meet at Ted's shop at 9:00 for a day of ideas and blacksmithing. The meeting will be a "Show and Tell" time for each of us to bring something we have made and to show or demonstrate it. This can include anything related to our metalsmithing objectives. For example, something you have made, a new technique you have learned, and idea you want to pass on to the members, a new product you know about or have purchased and think it would be good for the rest of us, bring it along.

Be sure to bring items for iron-in-the-hat drawing which helps support the Rocky Forge Group without the added cost of dues. As I have stated before, we have one of the best iron-in-the-hat drawings around and let's keep the quality going.

For lunch Carol said she will fix a pot of chili, so if you would bring something that would compliment chili we would all appreciate it. We all like to eat well and the Rocky Forge Group has a reputation of good dinners. If someone wants to bring doughnuts, give me a call at 765-491-2194.

Homemade Blacksmith Flatter

By Ted Stout

The flatter is a top tool used to "flatten" and straighten an area of hot metal. It is used by placing it on the surface of the item to be flattened while that item is red to nearly white hot. With heavy blows the flatter is hit and moved around over the

surface of the hot metal to both straighten and flatten the surface and to remove hammer marks.

If the flatter is too small or too much force is exerted the surface of the item being worked may be damaged, leaving imprints of the flatter, rounding the edges of the tool will minimize the problem. The dimensions of the flatter must be sized to the piece being worked. For most applications of the home blacksmith shop, a flatter of 2" by 2" or 3" by 3" is most suitable. The mass of the tool must not be so much as to absorb the hammer blows, rendering it useless. For a one person operation and to maximize the force, I like using a flatter under a treadle hammer or with a striker.

The cost of blacksmithing tools, new and used, has continually risen in recent years and the flatter is no exception. With that in mind the following will guide you on making your own inexpensive tool. Tools needed for this project include a cutoff saw, grinder, and welder.

Clifton Ralph once told me "anytime you can buy a hammer head with a hole in it, it's worth at least \$5". So Clifton, you are right, I cannot take the time to find a piece of steel, cut it to fit, heat it several times, punch a hole and drift the hole for \$5.00. So find a hammer head that works for your project and move on. I used a 2 ½ pound, cross peen hammer head from a flea market that cost 50 cents. (Clifton would be proud.)

About 1 inch of the peen was cut off with a chop saw. Using a piece of 1" thick plate steel found on the railroad, a section 2" by 2" was cut with the chop saw. It was pretty hard to cut, so it may have been a high carbon steel.

The one inch thick piece was welded onto the hammer head being sure it was square and level. The welding continued until a nice radius from the edge of the one inch thick piece up to the hammer head was accomplished, then that radius was ground to make the flatter look factory made. Next and final step was to put a nice hickory handle into the tool.

The time required to fabricate this handy tool was around 1 ½ hours and because I was proud of what I had made, my touch mark was added. That homemade, inexpensive flatter has served me well for over 8 years with lots of use by me and many others.

Ted Stout

Smoke and Noise

Articles from e-mail and the Internet

Compiled by David Childress

The following is an item I received and it struck me as a good example of old equipment and a stubborn man. We all have bought something old that no one else wanted thinking that we could fix its problems and have something wonderful. In this case Peter Hirst asked for suggestions on method to fix the problem. He received almost fifty responses from the simple and logical to the “if you only had” pipedream.

From: Peter Hirst
Date: Jan 18, 2008 10:27 AM
Subject: [TheForge] Free the Stake!

Years ago, I bought a big, beautiful stake anvil (about 100lb) and a big, beautiful swage block (150 lb) as a single auction lot. They were sold together because the stake anvil was mounted in the swage block, and the auctioneer was not about to attempt to separate them. The bottom end of the stake is about 2" square and was driven and no doubt rusted into the 2" square in the block. Well, long story short, they are still a single unit, although I have tried several times to separate them. I have got some use out of them as they are, but each is limited somewhat by the arrangement, and the time has come to separate them. This thing has been an albatross for more years than I care to admit, and I would be eternally grateful for information on how to end the madness.

PGH

From: Peter Hirst
Date: Jan 23, 2008 5:55 PM
Subject: [TheForge] Free at Last!

Good God Almighty, the Stake is Free at Last.

After taking in all your posts here, and using a mostly well-planned approach, I spent the last four hours in the shop and am very happy to report that what rust and simple machines had joined, man hath torn asunder. After soaking the assembled stake anvil and swage block in PB Blaster for a week (1/2 a can) I was prepared to go the red-heat, 10lb sledge and drift route. I prepared by cranking up my wood stove in my cold shop (20 F this morning) and hitting both sides of the joint with PB Blaster. When the block got to an estimated 150 F, I took a wire brush to the joint on both sides of the block and made an important discovery. After the PB and wire brush removed a good 1/4 inch of rust and sludge, it revealed that this was not a 2" stake in a 2" hole, but a 1 3/4" stake in a 2" hole, with wedges driven in on 2 sides, flush with the surface of the block. This changes everything, I thought, since I could destructively remove the wedges, something I did not want to do with either the block or the stake itself. I could see that one of the wedges was well-worn and deeply grained wrought iron, while the other appeared to be mild steel.

I immediately attacked the iron wedge with a rectangular drift 1/4" thick and a 4-lb drill hammer. It crumbled before this onslaught, and soon I had a 1/4" slot right through the swage hole, completely clearing one entire embedded face of the stake. Elapsed time: about 1/2 hour.

Applying the drift to the second wedge, the first blow felt like a broken bat foul ball on a very cold day. This one was not going to be so easy. I took the wire brush to it a little more to see if I could see better what I was dealing with, and it slowly brightened to a light gray satiny surface. Uh-oh. I then took a 1/4" high speed steel drill to the end of the wedge, and while it didn't exactly skip off, it sure didn't bite, either. This stuff was almost as hard as the drift I was hitting it with, which was made from an old file. This wasn't going to be so easy. Elapsed time: 1 hour.

I still had that one face free however, and 1/4" of space on one face all the way through the hole. Surely I could use that; get a little movement going between the still tightly wedged faces. More PB and alternate series of blows on opposite sides of the shank, parallel with the wedged faces. I figured

if I could use leverage and sheer power to rotate the shaft even a degree or two, that would be enough to break the rust on the wedged faces, and the rest would be easy.

Using the 10 pounder, 10 blows to a side, I could get the wedged faces to rotate about 2 degrees with respect to each other, but no more. Elapsed time: 1 1/2 hrs.

Having got this much lateral movement along the tightly wedged faces, I figured the basic rust bond was broken, and now it's time to drift the stake from the bottom of the block. I have a beautiful old wrought iron drift, about 1" square at the business end and about 2" across the head. Best thing I could think of to apply a blow to the stick end of the stake without risking peening it into the block. 50 or so blows and many checks and measurements later, the stake had not budged in the hole. Elapsed time: 2hrs.

More PB. And more lateral movement. Instead of trying to rock the shaft laterally in the hole, I starting applying lateral blows with the 10 pounder and the iron drift right at the base of the stake, right up against the swage block. 20 or so blows finally opened up a hairline gap. 20 or so on the other side closed it back up again. And so on for 10 or so sets. I was now moving the stake laterally back and forth across the wedged faces maybe 100th of an inch. Another 10 sets and it was moving maybe 1/50th. More PB and another attempt at drifting it out. Nothing. Elapsed time: 2 1/2 hrs.

What was going on? The stake was clearly moving laterally in the hole but would not budge vertically. I was beginning to suspect that there was something very peculiar about the wedge. Could someone have used a piece of a file for this thing?

More PB, and back to the lateral movement with the sledge hammer. In another 20 minutes or so, each 2 or three lateral blows with the 10 pounder would slide the base of the stake sideways the full 1/4 inch of slack in the hole. At this point I could get about 4 or 5 degrees of rotation between the wedged faces with alternating blows of the end of the stake farthest from the block. After 10 or so cycles of this, I could rock the stake back and forth about 10 degrees by hand. Even with more PB, it still took

10 good blows with the heavy sledge to finally drift the stake free from the bottom of the anvil. As it slid out, the wedge didn't fall free, but remained in place.

Also, as it finally slid free I noticed that the two parallel surfaces that had been hard against the wedge and against the inside of the block WERE BONE DRY!! Those two surfaces had been touched by not a a DROP of the 1/2 can of penetrant I had applied. The other 2 surfaces, that had been wedged with the iron wedge, were soaked with the stuff. But even when freed, these two surfaces that had been wedged so tightly were basically dry rust with a little bright metal shining through. Elapsed time: 3hrs, 10 min. Elapsed energy: probably 4-500 blows with the 10 pounder and twice number that with the drill hammer.

I went back to the swage block to remove the wedge, and sure enough, there it was, the telltale pattern of a bastard cut file, very coarse and deep, like a farriers rasp. But on one side only, the side that contacted the inside of the swage block. The other face, which contacted the shank of the stake, had been ground smooth, and was as noted, bone dry. So there it was. A previous owner had mounted this thing with a soft iron wedge on one face and a piece of file on the other. God knows what the result would have been if both wedges had been files.

Anyway, I now have beautifully separate stake anvil and swage block. The anvil is not as heavy as I had thought: only about 60 lbs. It measures 27" high and 29" tip to tip. The face is about 3x 6" and the octagonal shank is about 3" in diameter at the base, where its necked down to the 1 3/4 " stake. The block is much heavier than I thought at over 200 lbs. It was once heavier, but the years of use as an anvil base, obviously on bare dirt, rusted away significant voids on the bottom side. It is 5" thick in the sound sections, however, so there's plenty of mass left there to dress up right.

I am a little torn about whether to dress the anvil. It's obviously very old and I certainly won't touch anything but the working surfaces, and some deformations at the ends of the horns. I would like to grind and polish the face and horns, and use it for

fine work. What do you think? Should I leave it as is or dress it up?

Thanks to everyone for all of their input on freeing the stake. The time and attention really paid off. I hope this will be useful to others sometime. I think I used a little bit of most everyone's suggestions, and I would be glad to post pics when I can .

Thanks again, everyone.

Peter Hirst

Unfortunate for Us News

By David Childress

I received a Router's News Agency article about the price of coal. According to this the price of coal on the world market has increased 50% in the last year and is expected to increase another 100% in the next year. Energy demand in China and India is increasing at accelerating pace. They claimed that "Coal is the new gold". China is will to pay more for coal than most of us can afford and their demand exceeds current production. Expect to be paying more for coal, maybe a lot more.

In an unrelated but still unfortunate item, Tom Clark has been diagnosed with cancer and is scheduled for surgery. It seems that the cancer was caught in time and should all be removed by the operation. Tom has been a mainstay of the blacksmithing community for many years and it almost seemed like he would be around forever. We all wish him the best of luck and more years than his current 75.

Of more immediate impact, at least to me, I go on indefinite layoff at the end of the February. It is back to the great search for work. If you know of any openings for project planning or technical training, drop me a line. I would just as soon not have anything more to do with factory maintenance anymore.

Announcements

The Rocky Forge News is available by E-mail and on our website (<http://www.rockyforge.org/>). If you wish to receive the newsletter via E-mail sent Dave Childress a note at trollkeep@gmail.com, or e-mail directly to rocky@rockyforge.org.