

**METRO DETROIT
METALWORKING CLUB
March 2012 Newsletter**

Treasury report:

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Vice Pres: Emil Cafarelli

Treasurer: Ken Hunt

Next meeting: April 11, 2012
MCCC - 7:00pm

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President's message: Greetin's all! Yep, I have a program for this month's meetin' ! Something that might make you cringe and shutter, but I think you're going to enjoy! At the end of last month's meeting Mike Jostock told me of a dental procedure that he has done. Sounds boring you say? While Mike was explaining the process (can't let the cat out of the bag yet) I was mesmerized by the process.

I have never seen anybody so excited as Mike was while telling me the story! I'm not sure, but he may not have taken a breath for five minutes straight! If he can duplicate his talk (and I'm sure he will) it will be a great talk! We'll still have our regular "show and tell" and club stuff, so don't forget to bring them along also! Coffee, doughnuts and good conversation are in store for Wednesday night!

See 'ya there! Rick Chownyk, President

Story to share, by Rick Chownyk: Let me begin by telling you that this may be a longer story than I usually write, but I believe that it's important to be told.

When I was just a kid, not even a teenager yet, there was an older neighbor down the street named Walter. Wally was the true essence of an inventor. Always tinkering with something and always coming up with a "better" way to do something. Well at least he tried to make it better!

Wally's house was an old farmhouse with a doublewide lot that had bushes for a fence and was quite long. Being Wally, he came up with an ingenious way to trim the hedges. He mounted handles on a gas powered lawn mower where the wheels would normally be! My father was actually convinced to help him! Needless to say it did actually work, the hedges were trimmed, and my father's chest did heal from all of the flying debris!

So why do I tell you this story? Really, it has nothing to do with safety or inventiveness. It has to do with sharing. For years people have told stories and shared experiences. Sometimes it was over a beer, sometimes at dinner, or sometimes just sitting at a friend's house. I bring this up because I feel many people just don't spend the time (or effort) to share their experiences and knowledge with the world. Granted, we as the metal club do love to help and share our knowledge with friends and strangers, but we are becoming a minority in today's world.

Now I actually am coming to the real body of this letter. A few weeks ago, I went up to the Lansing area to visit Richard Hanley. Richard ran the Portland Machinist guild club for many, many years. He did a great job, but health issues forced him to stop running the club. Luckily, the club is still going on under new leadership.

So as I mentioned, I went to see Richard to visit and see about some machinery he was selling. I could tell you about the visit, but that would take at least another page or two. He told me his long-time friend and club member had passed away recently. His name was Leroy A. Martin and he had built over 30 engines from scratch over the years.

We talked about him at length and I decided to do some internet research on him. I was truly amazed and disappointed that the only thing I could find on the internet was his obituary! This man had built an 11 cylinder radial engine from scratch!

What a sad thing not to be able to find anything about him! I called Richard back and found that another gentleman was trying to work with the family of Leroy to put his collection on display in a museum near Lansing. They are trying to share and keep

the memory of Leroy alive through his great works. Here is a picture of Leroy:



Anybody who knows me will tell you how much I dislike typing on this keyboard to write my stories, but this has been an easy task to share this with you all. To all the Wally's, Leroy's and everyone who has made or done something in their lives, I raise my glass to you



Thanks. Rick Chownyk, President

For Sale by MDMC members: Kurt Schulz is selling a handsome and very complete 1968 Atlas/Craftsman 6x18 lathe. Kurt is the second owner, but the first owner passed away just weeks after he received it new from the factory, so most of its work has been in Kurt's hands:



The pictures posted in this newsletter are a poor representation of the lathe's true condition, as they are merely photos-of-photos which Kurt brought to the meeting:



The machine is well tooled and has many accessories. You can reach Kurt at (586) 337-4771, or at kurtwschulz@yahoo.com.

Craftsman / Atlas lathe
6 X 18 with tapered roller bearings.
3 jaw chuck
4 jaw chuck
Face plate
3 drill chucks
Wood working tool post
Live center
Dead centers
Boring bars
All change gears
Wood centers: Cup and spur
Tail-stock table
Tail-stock v-block
Chuck adapter with stop
Tool holders: RH, LH, and parting

Here are some additional details:

Standard tool post
Quick change tool post with tooling
Wrench set
Boring bar tool post v-block holders
Extra cut-off blades
20 high speed tool bits
Dog set
Steady rest with roller bearings
Lathe manual "How to run a lathe"
Swivel storage tray
Florescent magnifying light
Everything is mounted on a roll around bench, powered and ready to run.

\$1800.00 Bucks "American money only"

Other items for sale this month are a Jet brand five-speed bench top drill press, and a Sherline long-bed lathe. Sorry, no pictures, but contact Karl Gross at (248) 669-0673 or email at karlw144@aol.com for more details.

Let me know if you have an item for sale and I will put it in the following newsletter.

Show & Tell: Ted Zillich (I got it right this time, Ted!) has made progress on his quad-copter project. Here is his CAD rendering:



The machine will use brushless DC three-phase motors at the end of each boom, with speed controllers coordinating their output:



Also visible in above picture are the motor mounts (which Ted collaborated with Kevin

Thomas on), as well as a collet propeller adapter and a threaded propeller nose cone.

The central body of the airframe houses the electronics. The motor booms are a light weight polycarbonate material cut from dimensional stock and attached with hardware for in-field serviceability.

Ted also showed us a small high-definition video camera which is light enough to attach to the copter airframe:



It is the device in the lower left corner of the above picture and is approximately the size of a keyless remote door lock. Ted reports that it has a two-hour run time, uses a micro-SD card and can routinely be found on eBay for about \$38.

Shortly after the March meeting Ted posted an update to the MDMC Yahoo group with a video of his copter during test flights. Here is a link to his YouTube video:

<http://www.youtube.com/watch?v=ZKXP7me7ebU&feature=youtu.be>

Ted has a few more detailed pictures of his assembled copter at the MDMC Yahoo site. Make sure to visit and take a look. Nice work Ted!

Kevin Thomas had two interesting things to share with us at this meeting. The first, which he referred to as a “piloting chamfer tool,” was used to accurately cut the valve seats in relation to the stem guides in his Panther Pup engine:



The tool started life as a 45-degree chamfering bit, which was modified by wire-EDM burning a hole in the cutting end concentric with the shank. A gage pin was then pressed in to act as a pilot in the valve guide while cutting the valve seat:



Kevin’s second show-and-tell was an item he made several years ago. It is a cast manifold for a prototype V6 turbo Corvette project:



What is particularly impressive about this piece is that all of the contours were manually trigged-out – no CAD or CAM systems were utilized:



These photographs do not fully capture the fine craftsmanship achieved on this part. The contours, bosses and filets were beautifully done and the casting quality was superb. Nice work Kevin, and thanks for sharing this with us! I wish that production parts were as well executed as this one.

Phil Shannon shared some information which we all may find useful for those projects which are slightly outside the work envelope of our equipment. A company called TechShop is opening in Allen Park. As can be seen in the sales card below, it specializes in providing hands-on access to machinery of various kinds which may be too big for our own shops, or which may be something we would not use frequently enough to justify purchasing. Visit www.techshop.com



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- Full Welding equipment
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- Delicious popcorn & coffee
- Design software, computer access and training
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Ron Grimes is experiencing a phenomenon that sometime occurs when you become skilled in your hobby – others start wanting your products faster than you can make them! He is backordered on pen models which have a soft stylus on the back end (used to input information on smart phones and other touch-pad electronic devices). Ron reports that he has sold over 200 pens and has another 200 in stock:



The picture above shows many of Ron's products, including a new combination cork screw/bottle stopper design.

Ron also collaborated with MDMC member Kurt Schulz to complete this vise for his miniature Greenfield Village metal shaper:



The close up photo above does not give a proper perspective of scale, so here is another with some familiar items nearby:



Ron's vise is fully functional and can be seen resting on the dime! The business card belongs to MDMC member Kurt Schulz. His contact info is: First Prototype LLC (Product Development, Computer Aided Design, Mechanical Engineering & Precision Machining), 43758 Utica Road, Sterling Heights, Michigan, 48314, phone (586) 337-4771, kurtwschulz@yahoo.com Very nice work gentlemen, and best wishes for the continued success of both your businesses!

The March 2012 meeting was particularly well blessed with examples of excellent craftsmanship, unique work solutions, and innovative designs. MDMC member Louie Knapp's contribution appears last in this newsletter, not because of any shortfalls in the foregoing characteristics (much to the contrary!), but because I had to do a bit of research after the March meeting to better understand its operation. I also wanted to include a few full page cut-away drawings taken from the patent which he and his partner received for this design: the impressive innovations of this device hidden inside!

Louie's device is an attachment for a compressed-air-powered wheel lug nut wrench:



It is essentially a deep-well socket which captures the lug nuts during removal in a tubular-style storage magazine (the socket) and then (on reversal of the air-wrench) reinstalls the same nuts.

Louie explained that the purpose of this tool is to prevent loose lug nuts from falling to the ground at racing events like NASCAR, where they can then become hazardous projectiles when the cars accelerate back onto the track. His invention uses an internal steep-pitch screw drive mechanism to move the nuts inside the magazine. The end of that mechanism is barely visible in this picture:



Here are a few of the patent drawings:

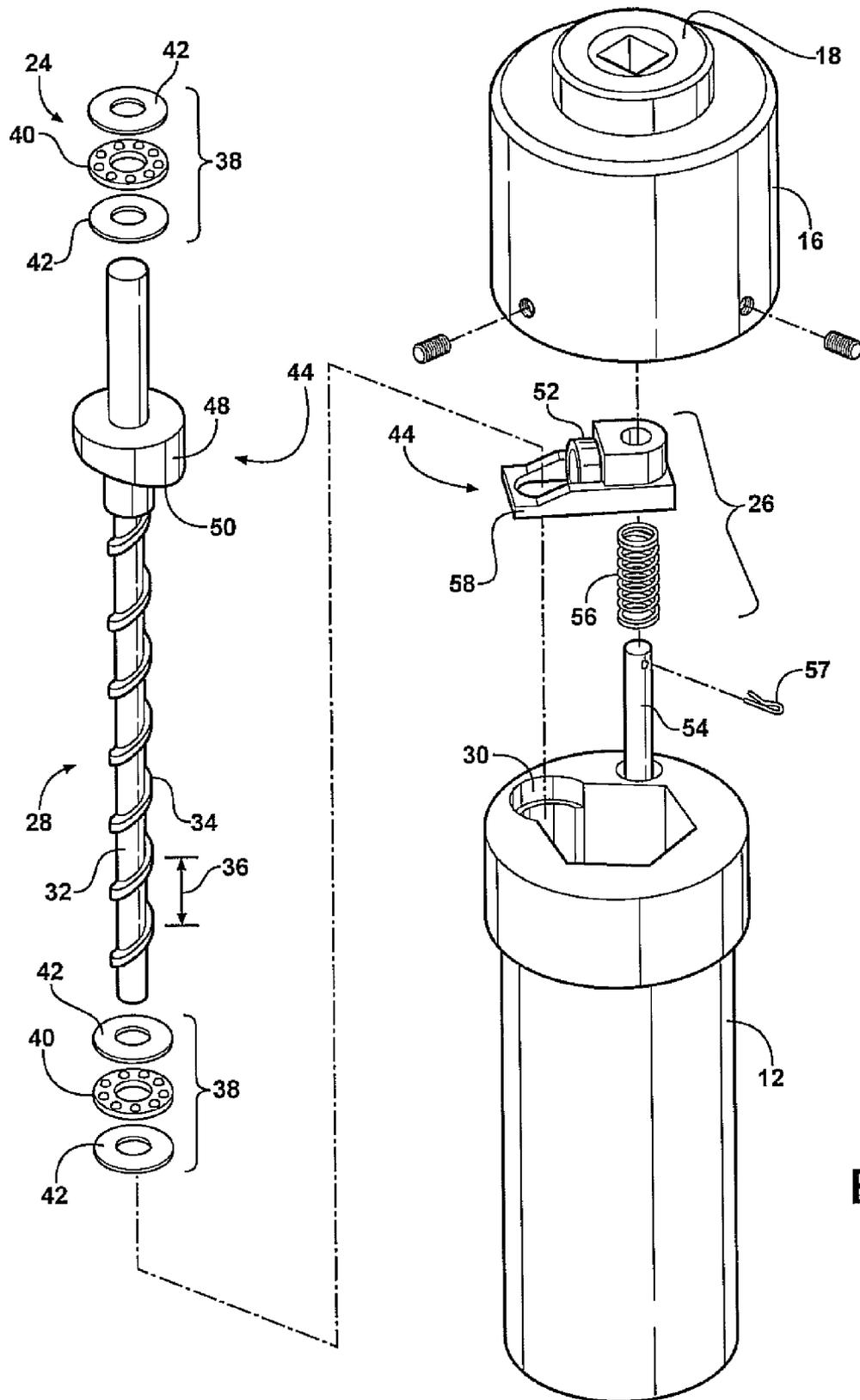
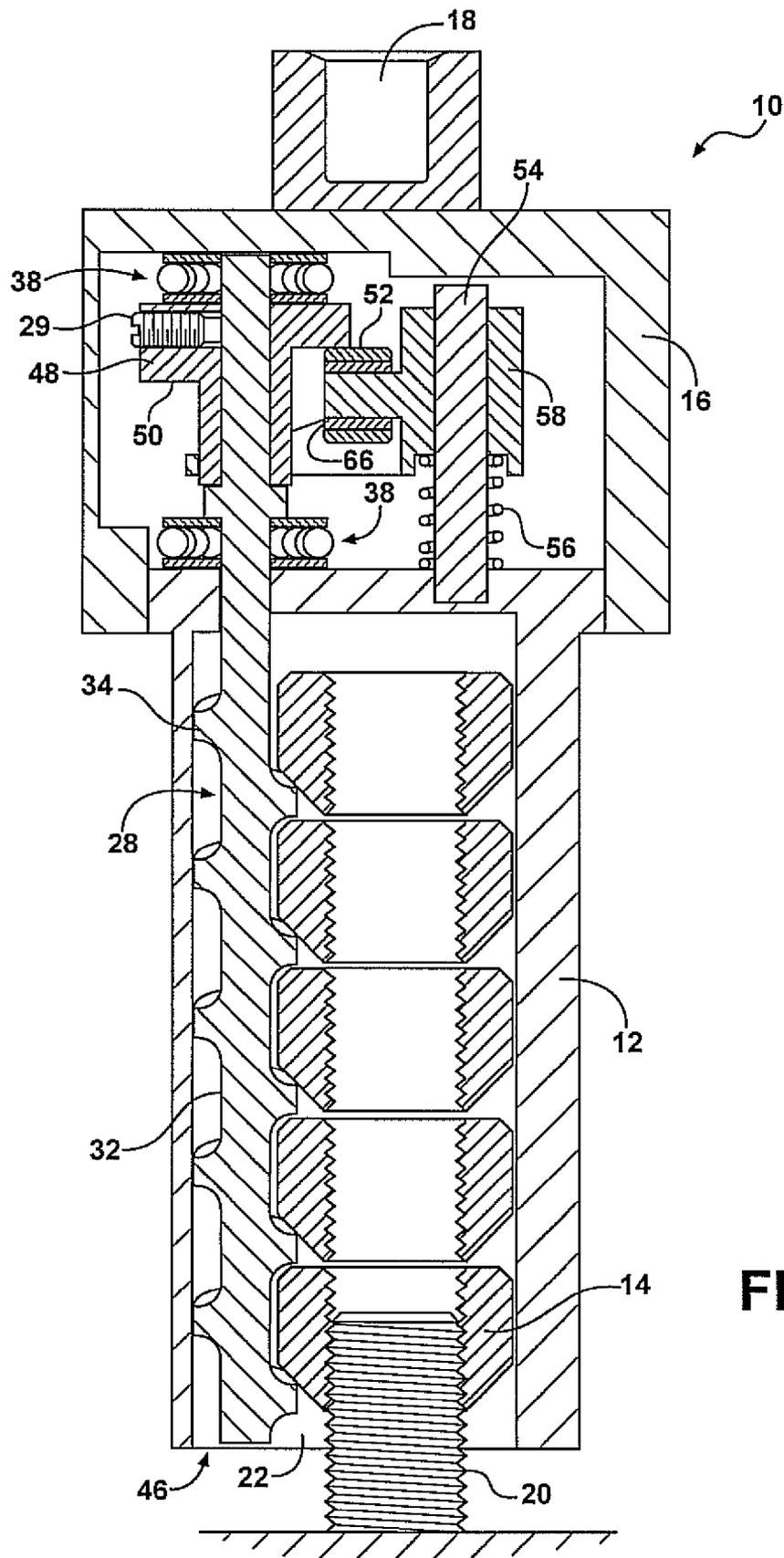


FIG. 2



The above cut-away diagrams show the unique internal workings which could not be examined during the meeting. Thanks for sharing your invention with us Louie, and congratulations on your patent! You and your partner should be very proud.

If you are interested in reading more about how the device works, the full text of the patent and additional drawings are available at this link:

http://www.google.com/patents?id=28vRAAAAEBAJ&pg=PA13&dq=louis+knapp+lug+nut&hl=en&sa=X&ei=oTh_T8PpLai42wX18qWTBw&ved=0CDQQ6AEwAA#v=onepage&q&f=false

Incidentally, Google provides access to USPTO filings, including many of the earliest recorded patents in our nation. I have found these patents to be useful when researching the operating mechanisms of old machine tools. The diagrams and descriptions can often stand in as a substitute for an operating manual for simple machines, or help to identify missing or damaged parts. Visit this searchable link: www.google.com/patents

Another resource which we are fortunate to have in our area is the Benson Ford Research Library, located at the entrance of The Henry Ford. It doesn't stand out as a featured attraction when visiting, so pay close attention as you enter the facility or you may walk right by. It is located to the right of and behind the ticket sales building, behind several thick evergreens.

This library contains an enormous collection of industrial-era machine tool literature, including manufacturer's catalogs, sales brochures and operating manuals. The collection catalog is searchable online by subject, manufacturer, author, and several

other methods. The library is open to the public and the staff is very helpful. They will make copies of the materials for you, but those copies will be digitally stamped "The Henry Ford" (unobtrusively, though clearly).

The copy service is also fairly expensive, at about \$0.050-\$1.00 per page if I remember correctly. Check out their web site at www.hfmgv.org/research.

Bob Farr, Secretary