



# METRO DETROIT METALWORKING CLUB

MARCH, 2013

\* Photo contribution from Rick's brother, Ron Chownyk. It is a grave marker in DuPont, IN.

## **Treasury report:**

Balance: \$767.05

## **Next meeting:**

April 10, 2013, 7p.m.  
Macomb County  
Community College  
Building S, Room S140

## **Contacts:**

President: Rick Chownyk

Vice Pres: Emil Cafarelli

Treasurer: Ken Hunt

Secretary: Bob Farr

Webmaster: Steve/Doug Huck

**President's message:** Greetings all!  
Will this cold weather ever end??  
Well, that's Michigan weather.....

NAMES is just 2 weeks away and I sure am looking forward to it. It's great to see the guys each year and meet new ones too! We'll talk more about the show this Wednesday.

I spoke to Kevin Thomas (triple bypass and valve replacement on his

heart!) and although he sounded a bit tired he is recovering nicely. He told me Kurt will be at the meeting with the full story and info.

Not much else going on, so we'll see 'ya at the meeting!

- Rick

**Show and Tell:** Ted Zillich gave a demonstration of his quad copter project. Recent improvements include two-way telemetry for sending data such as remaining battery life and GPS coordinates from the copter back to the controller –



This big machine was remarkably stable during flight. Ted controls the throttle and direction, while the rotors and gyro are processor controlled to give the machine good gust resistance at altitude –



Ted already has a second version in the design phase –



His new machine will use a birch ply body and carbon fiber booms for weight reduction and strength –



Ted reports that carbon fiber products can be found in common sizes for reasonable prices at online sources like –

[www.flycarbon.com](http://www.flycarbon.com)

[www.dragonplate.com](http://www.dragonplate.com)

Charles Schwarzwald shared a recent find: a cast V8 crankshaft –



Charles was unable to obtain the name of the person who made it, and does not know if others might be available –



It looked to be conveniently sized for a nice desktop V8 model. Hopefully Charles can solve the mystery and gather the remaining parts.

Good luck Chuck .. keep us posted!

George Waterman continues to make steady progress in manufacturing the parts for his sterling engine. This month he brought in the cylinder, piston and rods to show –



The rod with the piston is taped to protect the beam and cylinder during trial fits. At previous meetings (see the January 2013 MDMC newsletter) George discussed a jig that he developed to cut the gudgeon pin retaining ring grooves. The technique was successful, the nicely cut groove being seen in this assembly –





Slightly less obvious is George's careful attention to friction reduction found *inside* the piston skirt. The gudgeon pin rides on a roller bearing (also retained by snap rings) instead of the usual bronze bushing –



Nice work George! We are looking forward to future progress reports!

Kevin Thomas shared an expandable arbor which was a part of the discussion at the January 2013 meeting about George Waterman's snap ring groove jig –



Kevin suggested then, and now, that an arbor of this type can be turned to close tolerance with the bore diameter within which the groove needs to be cut. The arbor's tapered screw head then expands the device evenly to ensure concentricity –



The discharge chute of Dimitar Rangelov's snow blower is normally turned through its range of movement by a rod and cable arrangement. That system failed, so Dimitar replaced it with a D.C. gear motor –



If I read this label correctly, this is a 180:1 gearbox –



There are a variety of sizes, some with breast plates to assist stability -



This first model is a Goodell Pratt No.655 hand brace, patented in 1895. The casting around the gear work is intricate, and it has a pinion bevel gear on the handle side to help stabilize the drive gear –

If Dimitar can put the discharge chute position under numeric control, then collaborate with Ted Zillich on a two-way telemetry radio control system, he should be able to shoot snow into his *neighbor's* driveway from the comfort of his recliner – with 0.001” accuracy! We all need toys like this.

Charles Schwarzwald introduced his friend Gary Callender to the club. Gary has been collecting and restoring drill braces for some time and brought several to the meeting to share –



This next model is a Miller Falls No.12 (made from 1925-1931) with a breast plate and another intricately cast frame. The drive handle arm can



be repositioned to provide greater leverage on the drive gear –



This next Miller Falls is also a No.12, with a plainer shaft but with a useful bubble level –



Some of the braces had two speed settings. Here is a close up of the same Miller Falls No.12 from above showing the bubble level and back side of the drive plate with two bevel gear of different circumference –



This next brace is a Miller Falls No.77, made from 1938-1948. The supporting handle-side pinion bevel gear is visible from this position –



The following brace is a Miller Falls No.119-A, made from 1938-1962. It was a contemporary of the No.77 above, but appears to have several different features which set it apart in the manufacturer's line up –



The following brace was also made by Miller Falls. It is a No.980, made from 1925-1930. The frame is intricately cast (like the No.119-A above) as is the drive wheel –



Here is a photograph of the same brace from the reverse side. If anyone can help identify the manufacturer, please contact Gary by email Gary at: [gary.callender@earthlink.net](mailto:gary.callender@earthlink.net)



This last brace was made in Germany but Gary has been unable to identify its manufacturer. It has generous castings and seems very well made –



Thanks to Gary Callender for sharing his fine collection with us. We look forward to seeing you again!

Bob Farr, Secretary