

THE TORCH

NEWSLETTER OF THE BLOW TORCH COLLECTORS ASSOCIATION

- THIRD & FOURTH QUARTER 1995 -

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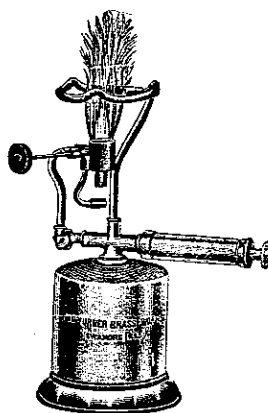
- THIS NEWSLETTER MAY BE REPRODUCED WITH CREDIT GIVEN TO THE SOURCE -

We have added a number of new members to our organization since the last newsletter. One in particular stands out as our long distant collector and he is **Harry Goff** from Western Australia. Harry is a relatively new torch collector and is growing his collection and knowledge of blow torches from "down under". He has confirmed that there was an Australian torch manufacturer known as the **DARLTON COMPANY**. Harry has acquired two Darlton torches and indicated that one of them is very similar to an Otto Bernz #75 torch. (Harry, don't forget the photos you promised.)

I also have communicated with **Dave Kolb** from Minnesota who recently visited **Maurice Williams** in North Dakota. Dave has confirmed that Maurice has, to our knowledge, one of the largest blow torch collections in the world with an estimated **3000 torches!** Dave sent me photos of the Williams torch collection to confirm his estimate of the count. He also walked away with a few torch purchases from Maurice. While looking over the Williams collection, Dave noticed a torch that was manufactured by **THE COLEMAN COMPANY**, the same company that manufactures lanterns and campstoves and another name to add to the growing list of torch manufacturers. According to Dave, Maurice plans to donate his torch collection to the city of New Rockford when he passes on to that big antique store in the sky.

I have also been communicating with **Jim Clough**, a collector from Illinois. Jim's collection is somewhat different in that it contains **1227 solder irons!** In addition to his phenomenal soldering iron collection, Jim also has a modest torch collection that includes one of the oldest looking torches that I have seen to date. I would

estimate the age at circa 1875. You'll hear more about Jim and his iron collection in a later issue.



TURNER BRASS WORKS #65 LABORATORY TORCH
CIRCA 1910

Over the past few months.....

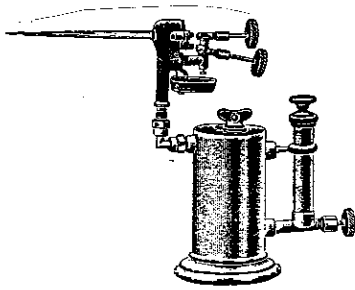
I have heard from a number of collectors who have expressed an interest in buffing techniques. While I do not profess to be a buffing expert, I have restored over 100 torches and other related items. That experience has provided me with a good basic knowledge of buffing that I will share with you (or bore you).

There is no doubt that you need the right tool for the job, as my father would say. In my earlier days of buffing, I certainly did not use the right buffing tool and struggled with a 1/4 inch electric drill clamped in a vise. It was difficult work dealing with a small diameter wire brush in removing the outer residue on torches, since the drill could not take much pressure against the torch before stalling out. In some cases, I actually damaged the surface of the torch with the wire brush not knowing what the coarse bristles could do to the soft brass. The cotton wheel on the drill also did not do well because of the small size and

insufficient power. Those of you that have attempted this method with the small power tools can certainly relate to the problems and poor results.

Some time later I graduated to a 1/4 hp 6 inch bench grinder that I purchased at a local hardware store. I installed a wire brush on one side to remove the loose residue from torches and a cotton wheel on the opposite side for buffing. The 6 inch grinder performed a bit better than the drill arrangement, however, the grinder still did not provide the necessary power and the buffing surface was still too small and inadequate.

On my way to lunch, about 4 years ago, I passed a Marine Supply Store in Bellevue, WA that had numerous antique marine brass objects, including binnacles, portholes, and bells displayed in the window. I was intrigued since everything was highly polished to a fine shine and looked great! I entered the shop and inquired with the owner on his source of buffed articles. The owner was extremely helpful and indicated that he had his own buffing operation located in the basement of the shop. He allowed me to "go below" where, I encountered a treasure of antique marine articles including a few blow torches, as well as his large buffing facility. The actual buffing room was approximately 8 ft square, ventilated to the outside through the back wall with a large exhaust fan, and included a large 1 1/2 hp 10" buffing machine. The setup allowed the buffer, a young lad of about 20, to handle almost any size material limited only to the heavier items such as large binnacles or ship's bells. The larger items were done by hand utilizing a large industrial hand buffer that is similar to what used in car body shops for grinding and polishing. There were a variety of buffing compounds being used as well as numerous small hand tools to get at those hard to reach places.



TURNER BRASS WORKS # 50 ALCOHOL TORCH
CIRCA 1910

Not only did I gain information from the buffer on buffing techniques, but I also secured, from the owner, a source for buffing compounds, cotton wheels, and a large buffer. The owner actually purchased his 1 1/2 hp buffer from a local auction house that occasionally auctions out new and used tools and equipment.

I was in luck, one month later when the auction house advertised a large tool auction that included many small and medium sized power tools, including various sized bench grinders. I attended the auction on the appointed Saturday morning and during the rush of the auction, I purchased a new 1 1/2 hp, 1800 rpm buffer with a 3/4 inch mandrel that accommodates a 10 inch cotton wheel, and a heavy duty cast iron buffer stand, all for the paltry sum of \$110. The equipment that I purchased was the remnants from a local tool distributor that had declared bankruptcy. It was an unbelievable bargain considering most retail stores would charge from \$450 - \$800 for the same equipment.

• BUFFING ENCLOSURE •

The next problem to tackle was how to continue buffing in my garage without having the buffing compound residue disperse throughout the garage and onto every flat surface. I decided that a separate enclosure was needed to contain the debris yet provide a safe working environment. After some lengthy sketching, I came up with a plan to construct a light weight portable enclosure so that, if necessary, it could be located anywhere within the garage or be store disassembled. The enclosure was made from 2x2 pine lumber, with each of the four walls constructed separately. The two side walls measure 4 ft wide, the front and back walls measure 3.5 ft wide and all sections are 6.5 ft tall. The ceiling section corresponds to the wall

dimension widths. The walls and the ceiling section were then covered with 10 mil clear polyethylene and stapled to the frames. One of the wall sections includes a small framed door made from the same 2x2 lumber and also covered with the 10 mil material. The corners were drilled and the walls were assembled together with stove bolts and wing nuts, 3 to a corner. The ceiling section was placed on top and set in place by its own weight.

I purchased a single florescent bulb fixture and hung it from the enclosure ceiling with short metal chains. I also purchased and installed a small metal vent in the door to provide airflow into the enclosure.

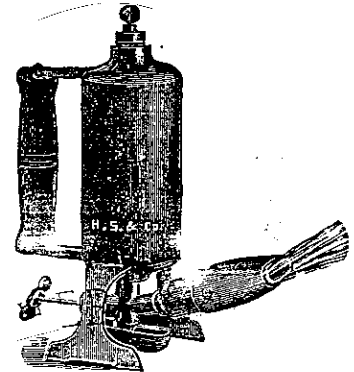
After positioning the enclosure in a convent corner of my garage, I cut a small hole in the polyethylene and ran a heavy duty extension cord and a shop vacuum cleaner hose through the opening. After placing the 1 1/2 hp buffer inside the enclosure, I connected the discharge openings from each side of the buffer with a standard 3 inch flex hose. The opposite ends of the two flex hoses were connected to a PVC tee and the vacuum cleaner hose was plugged into the tee. I have found that the vacuum arrangement works fairly well and does remove much of the buffing debris. Also, inside the enclosure is a 6 inch grinder that I use with a coarse wire brush to remove some of the torch residues. Since I do not use the 6 inch grinder as often, a simple old cotton sock attached to the discharge opening works great in capturing much of the debris.

• SAFETY •

It is my belief that personal protection is most important when buffing, and I would guess that the greatest threat is **lead poisoning**. I also enjoy doing stained glass work and after reading numerous articles on stained glass hazards, including lead poisoning, I have become very cautious. Many of the torches have lead exposed where it was spattered on the tank during soldering or perhaps the tank developed a leak and it was sealed with solder. During the buffing process, the abrasive action removes the solder, and along with the buffing compound, is dispersed into the air.

Because of my cautious nature, I enter the buffing enclosure looking like a "creature from outer space". I wear

disposable coveralls, a disposable painters knit hood, a high quality respirator with replaceable filter cartridges, safety goggles, ear plugs, and leather gloves. The ear plugs are to drown out the noise of the vacuum cleaner and the leather gloves not only prevents hands from contacting the lead laded buffing debris, but it helps to keep hands cooler when handling the hot buffed metal. All of the protective equipment may seem a bit overly cautious, but when it comes to health issues, I believe that it is worth the added expense and effort.



HAMMACHER & SCHLEMMER & CO., NY
NO. 7 BRAZING LAMP
CIRCA 1891

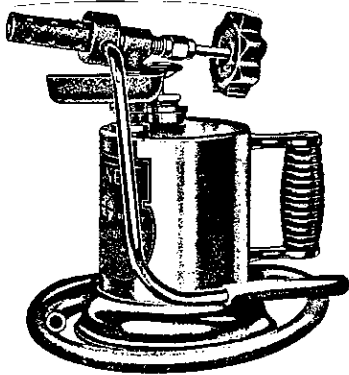
• TORCH CLEANING •

After selecting a torch for buffing and restoration, disassemble it down to the smallest part possible. A better buffing result is possible by this process even though the disassembly adds a considerable amount of time to the procedure. When the disassembly is complete, I examine all of the parts and look for any distinguishing names, part numbers, or patent dates/numbers to identify or date the torch. Using various small wire brushes, steel wool, and scrapers, I clean the areas that will not be reached by the 6 inch wire brush or the buffing wheels.

After the hand work, parts are further cleaned using the 6 inch coarse wire wheel. Almost all parts are cleaned in this manner, including screw heads and all of the cast iron and steel parts. Careful attention is required in using the wire wheel so that the metal surface is just slightly touched by the wheel. Heavy engagement with the wire wheel will result in "wire brush marks" and will adversely affect the quality of the final polish. I examine all of the parts again to determine if any hand work is required prior to polishing.

• BUFFING MATERIALS •

The 1 1/2 hp buffer is set up so that a braided 10 inch cotton wheel is installed on one side for the coarse buffing (there are actually 4 cotton wheels, each 1/4 inch thick and stacked together), and a 10 inch loose cotton wheel (not stitched or braided), is installed on the other side to accomplish the finish buffing. Various buffing compounds are used throughout the buffing process. There are a few sources listed later on in this newsletter for the compounds as well as the cotton wheels. Most major cities carry the same supplies if you spend a little time researching for distributors. There seems to be somewhat of a universal color code for buffing compounds where black colored compounds are used for the coarse removal and rough buffing applications, rust colored compounds relate to medium conditions, and white colored compounds are used for the final buffing process.



TURNER BRASS WORKS
NO. H-1 HALIDE REFRIGERANT LEAK DETECTOR
CIRCA 1939

• BRASS & BRONZE BUFFING •

Brass is an alloy of copper and zinc and is a non-ferrous (no iron or steel) metal. Brass that is 70% copper is known as bright brass or high brass and shines up to be bright yellow. A higher copper content produces a pinker hue and is known as low brass. No amount of polishing will make it bright. Most of the earlier torch fuel tanks were made from seamless drawn brass. A note of caution: some fuel tanks were manufactured from sheet steel and either copper or brass plated. The thin plated material does not stand up to buffing

very well and requires light hand finishing. Common bronze is an alloy of 80% copper and 20% tin, is much harder than brass and was used primarily in casting burner heads in the blow torch industry.

Brass, white brass, or bronze are probably the most difficult to buff of all the non-ferrous metals and, therefore, it is recommended not to use the less expensive buffing supplies that are readily available. High horsepower and high speed buffers, good quality cotton wheels, and heavy duty compounds are suggested for positive results. Quality compounds include abrasive particles blended with a lubricant that promotes a flowing rather than a gouging or scratching action. Effective brass and bronze buffing is accomplished by achieving a buffing wheel surface speed of 5000 - 7000 feet per minute. An 1800 rpm buffer with a 10 inch diameter wheel just meets the criteria of wheel surface speed. Buffers with less than one horsepower do not have the power required for heavy buffing and will increase the buffing time significantly.

• BUFFING TECHNIQUES •

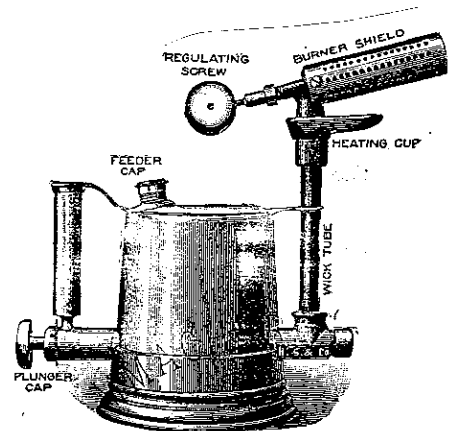
Prior to buffing, dress the braided cotton wheel with black compound, let it set for a minute to harden, then begin the coarse buffing. With the power available, you are capable of "leaning" into the buffing wheel with your work and with the abrasive action of the compound coupled with the generated heat, it is possible to remove almost anything from the surface, including solder. [A note of caution: *be careful during the buffing process on corners and edges. The wheel will "catch" under certain conditions and will propel the object at a high rate of speed and with much force, downward, usually striking your foot or leg.*] After some buffing experience, you will "get the feel" on how often to dress the buffing wheel, which compounds to use, and the amount of compound to use under different conditions.

• FINAL BUFFING & ASSEMBLY •

When the coarse buffing is complete and you are satisfied with the results, it's time to begin the final buffing. Repeat the wheel dressing of the loose cotton wheel with the white compound. Buff all non-ferrous metals and eliminate the final buff for any ferrous metals since

the final buffing has little affect on these parts. When all parts are buffed to satisfaction and are still warm, apply a liberal coating of clear BRIWAX to everything. A vigorous buffing with a soft clean rag brings all of the parts back to their original buffed shine. I have found that the BRIWAX, which is available at most hardware or antique refinishing stores, significantly slows down the oxidation process.

When all parts are cleaned, buffed, and waxed, reassemble the torch using two clean rags or clean cotton gloves to reduce the hand contact with the non - ferrous metals. At this point, I usually place a small tag on the underside of the torch that includes the date and purchase price.



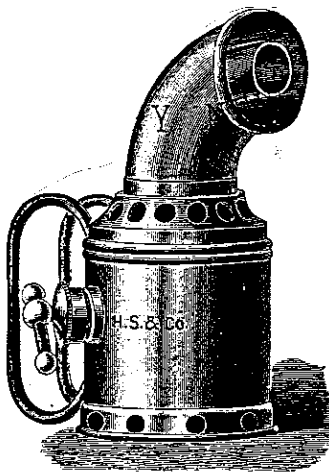
WELLINGTON PAINT BURNER
CIRCA 1891

• DO'S & DON'TS •

Since the oils and acids in your perspiration will accelerate metal oxidation, I recommend that you do not handle any of the non-ferrous surfaces with your bare hands. Use gloves when handling, or pick up the torches by any ferrous surface. Also, never display torches in direct sunlight as the sun's rays will accelerate oxidation. You will find that by following the simple waxing, handling, and storing suggestions, your torches will last 4 to 5 years or more before requiring a polish. I do not recommend varnish, lacquer, Clear Coat, or any other type of surface coating. The coatings last quite a long time, however, the non-ferrous metals will eventually oxidize and polishing would require stripping, a somewhat tedious process. The coatings are also susceptible to chipping or scratching.

• OTHER SUGGESTIONS •

A number of torch collectors have offered numerous variations on stripping and buffing techniques. One that I have tried with limited success is a dipping process utilizing **muriatic acid**. The process involves pouring the acid into a non reactive container such as plastic or glass, and dipping the part into the diluted acid solution. The acid action quickly removes the oxidation and other residues, but it also removes base metal if you leave the part in too long. It becomes difficult to entirely clean the surface and the base metal becomes "pitted", affecting the quality of the buffing process. Muriatic acid is also very dangerous to work with, and unless used properly and outdoors, the acid fumes can adversely affect other metal objects in the general area. Weighing all of the pros and cons, I have elected to continue my process without the acid.



HAMMACHER & SCHLEMMER & CO., NY
NO. 5 BRAZING LAMP
CIRCA 1891

• SUPPLY SOURCES •

Adequate buffing supplies can be difficult to obtain, especially if you live in a small city. The following distributor is a great source of supplies with reasonable prices:

CHEMITHON
5430 West Marginal Way SW
Seattle, WA 98106-1598
206-937-9954
206-932-3786 fax

Contact Mike Dattilo for information. I would suggest using compound # 6-B-56, Black, for heavy material removal and coarse buffing, compound #2-B-25,

Rust colored, for medium material removal and medium buffing, and compound # 6-B-602, White, for final buffing.

Another source of materials was provided by **Dick Sarpolus** of NJ:

C & D PRODUCTS

132 Botany Slopes Road
Piedmont, SC 29673
803-845-6311

I would suggest that you request a copy of their free catalog that has a good selection of materials and compounds. Let me hear from you if there are other East Coast suppliers that our collectors would be interested in contacting for information and purchases.

As a final note, remember to reduce personal risk by wearing protective equipment and happy buffing !

Did you know that.....

the black plastic looking material used in manufacturing many of the blow torch knobs is **BAKELITE**? Bakelite was named after L. H. Baekeland, an American research chemist, and was discovered in 1909. Bakelite is a thermosetting plastic having high chemical and electrical resistance and was used as a substitute for hard rubber, celluloid, and other substances. The synthetic plastic is made from two very common ingredients, the phenol in coal tar and formaldehyde. It was first developed for use in electrical insulators and in ignition systems for airplane engines, however, it was quickly adapted by manufacturers to make telephones, radio cases, doll house furniture, airplane propellers, jewelry, the "glue" in plywood, blow torch knobs, and literally thousands of other items. It was dubbed "the material of a thousand uses."

Most Bakelite pieces were molded, although some were also cast. It is a very hard substance, but can be carved with files or grinding tools. The material was naturally amber colored, however, most commercial pieces came to be made in either black or cream color. Bakelite can be easily dyed or colored, and most decorative items, from kitchenware to jewelry, were made in a rainbow of colors.

The chief drawback of Bakelite was that it cracked easily and when other plastics became available, its use was more or less suspended. It may still be used today in situations where the non-conductivity of heat and electricity is critical. Now, you know everything you should ever want to know about those black, green, red, and other colored, plastic looking torch knobs!!

Last but not least

A number of torch collectors have sent me numerous bits of torch related literature. People like **Dick Sarpolus**, **Mark Pedersen**, **David Kolb**, **Graham S. Stubbs**, **John Dorffeld**, **Chuck & JoAnn Tobin**, **Al Foster** and others have submitted excellent data that have certainly increased my knowledge of blow torches. I apologize for those of you that I did not mention and I thank you also for your submittals. I have shared much of the data with all of you directly or indirectly as information in past newsletters. Every so often, someone sends in a complete catalog, such as **Al Foster's** recent submittal of a **TURNER BRASS WORKS**, May 15, 1916, catalog no. 4 in excellent condition. Included are well written torch descriptions and some unusual examples of torches such as the no. 79 torch on page 17. The description relates to the 1895 introduction of the torch and also describes a vial in the handle for acid. I assume the acid was similar to solder rosin, but if anyone has any other ideas, I would be interested in hearing from you.

A few last notes

Tom Jennings, a collector from Arizona has asked if anyone has a source for pump leathers, the formed leather pieces used in torch pumps. Is there anyone out there who can help us out with a source or a solution?

Also, I am always looking for input for future newsletter articles. If you are so inclined, write an article and I will gladly print it and will accept your work in any format, including hand written. Not to worry about spelling, that's why Spell-check was invented!

I hope you all had a great holiday season. Happy torch hunting!