

THE RATIONALE FOR LINSEED OIL VS. TUNG OIL

By Dick Culver

The Tung Oil vs. Linseed Oil finish has been raging for years. If I were personally gonna' advise anyone on which to use, I would have to know several things:

- 1.Are you trying to restore your rifle to its ORIGINAL finish (as a collector's piece)?
- 2.Are you trying to simply put the best possible finish on your rifle from a practical aspect (protection from the elements, durability, etc.)?
- 3.Are you trying to make your piece as "pretty" as possible?

All of these questions enter into the final equation. I can give you the history, and rationale for the various finishes and you can make up your own mind. I have accumulated various finishing processes from some experts (or very experience folks) and will be posting the methods on the "Articles Page" shortly. In the meantime, here's how it went in service as opposed to the cold pages of a history book.

For many years, certainly up to the early part of WWII, Linseed Oil was the ordnance preference. Why? Availability, lack of synthetics (for finishes), tradition AND (thank goodness) a lack of available satisfactory plastic stock materials made linseed the favorite Armory Finish..

Linseed Oil is easily obtainable, is friendly to wood (keeps it from drying out, and if you are a masochist, produces a "classic finish" on military rifles. During the time between WWI and WWII, the troops often had more time on their hands than the brass thought was good for them.

My Dad who spent a number of years as an enlisted Marine during and after WWI, often told me of being issued two pair of shoes (high tops, in the custom of the time). During their off duty hours, they were required to "spit shine" the SOLES of the pair of shoes they were not wearing (to make sure they had something to keep them occupied). I'm sure that the continued rubbing of linseed oil into the stocks of their M1903s fell into the same category. Sure, it was good for the stock (or at least didn't injure it), but best of all (from a standpoint of the NCOs and Officers), it kept idle hands out of mischief!

From a standpoint of tradition, the new stocks of the M1903s and the early M1s were dipped into a tank of linseed oil (no doubt boiled linseed oil after they figured out the advantages of a more rapidly drying finish) – Boiled linseed oil was the only thing my Dad would use on our personal '03. The Armory linseed "dip" was designed to preserve the stocks and to keep them from drying out prior to being issued. I have an August 1941 (Lend-Lease) gun with what would appear to have the original Armory "dipped" linseed oil finish. No effort was expended to highly polish the stock, and I rather imagine that the rifle sat in the rack in England for the duration of the war. I would say that the linseed dipping did its job well, although no one can say the stock is "pretty"... just has the appearance of being dipped in linseed oil in a time "long, long ago", in a galaxy "far,

far away" – but it amounts to a time capsule for early stock finishes, not degraded by some GI attempting to make points with his NCO or inspecting officer.

Supplies of linseed oil began to show signs of getting scarce during the early part of WWII, and in order to shade their bet and perhaps impart a more waterproof finish to newly manufactured M1s, Army Ordnance decided to go to the Chinawood or Tung Oil finish (also known as Japanese Dryer). It had the advantage of being as easy to apply as linseed in the Armory environment, and could be applied in the same manner (dipping the entire stock in Tung Oil) for a few minutes). The result was relatively waterproof, and durable... It was not chosen for its spiffy appearance, but it did the job well. The Tung Oil finish was the official finish for the M1 (and later the M14) from 1942 until the end of production of the M14.

Tung Oil is made from the "nut" of the Tung Tree, and for many years when driving along the lower parts of Mississippi, Florida and Alabama, I remember seeing large groves of Tung Trees with signs on the fence that indicated that the Tung Groves were maintained as a " War Reserve" for National Defense" in time of War (I forget the exact wording, but that was the gist of the signs). I haven't seen 'em for years, but I suppose the need for Tung Oil and Tung Groves has gone the way of the "Do-Do Bird", what with the Matty Mattel Special Mouse Gun.

The Tung Oil finish was designed to put a weather proof finish on the "just finished" rifles and was NOT meant to be used on a continuing basis as the Linseed Oil had been in times gone by. It was a "base coat" and since the Government wasn't planning on issuing little bottles of Tung Oil to the troops, the usage of linseed oil was specified for long term "troop maintenance.

Why? Well it didn't hurt anything and kept "idle hands" busy. Linseed, judiciously applied, DOES make an attractive finish, and serves to protect the weapon. Don't forget, tradition also played an important part in the equation, and traditions die hard – "By Gawd, I used linseed on MY '03, and you clowns are gonna' use it on your M1s... Good stuff, and the Ordnance People KNOW what they're doing!"

The nice thing was, that it served its purpose. The posting indicating "every hour for a day", "every day for a week", "every week for a month", "every month for a year", and "every year for the rest of your life" was an oft quoted truism passed down from generation to generation... It could and did produce a very nice finish if you kept with it. The tradition and indeed institution of the professional private died out after WWII however, and the rifle no longer had an owner that would keep and nurture him (her?) for the rest of its service life! As a result, very few M1s ever achieved the marvelous finish often seen on pre-WWII M1903s.

Speaking from personal experience, many "after market" finishes were used on M1 stocks, primarily to garner favor with inspecting officers and NCOs. Primo among such finishes that started appearing in the early 1950s were such as, "Linspeed Oil", and "Tru-Oil". Both gave a finish that can politely be described as artificial, and much to the delight of the troops, VERY SHINY! Much like a shellac or varnish finish. I personally always had an extra set of wood for my M1 with such a finish set up JUST for inspections! My "field stock" was a bit rougher... heh, heh, heh... The inspecting officer in one unit I served in referred to my stock as a "piece of furniture"...

If I had only known what I was doing to future collectors?! Sigh.... Needless to say, no attention was paid to the cartouches or circle Ps, as a matter of fact, these were usually removed to improve the finish and appearance...

Sometimes units would issue (local) orders that prohibited the use of anything but linseed oil (not because of any ordnance objection, but because it made "stock maintenance" too easy for the troops – much like the appearance of "Corfam Shoes" were thought to be the bane of the traditional "spit shine" and no longer required any effort on the part of the individual Soldier or Marine). As a result, we would check out either Tru-Oil and Linspeed, and see which indicated a preponderance of linseed as its main ingredient and apply that one (I think Linspeed usually got the nod), lying in our teeth when asked if "THAT" was a "linseed finish"?... Well, it WAS, sorta' anyway...

With a "Linspeeded Stock" I once "bubbled" the shiny finish and charred the inside of the handguards during a "squad in the assault problem" while laying down a base of fire for the advancing members of the squad. It looked great in garrison, but was not a terribly practical field finish.

When building Match Conditioned M14s at MTU Quantico, the armorers usually treated the INSIDE (and sometimes the outside) of the stocks with a polyurethane finish to make it weatherproof and prevent the possibility of warping during sudden rain squalls.. It wasn't usually done to be pretty, and the finish often left something to be desired from the standpoint of a connoisseur, but it served its purpose nicely.

So you see, it wasn't quite as cut and dried as the collectors think, nor did it always go as the manuals indicated that it should. Stock finishes were often a personal and subjective thing.

In answer to my original criteria, I would use the following guidelines:

- 1.If you want to restore the rifle to the (original) condition it left Springfield (or Winchester, WRA, or IHC), I'd check out the manufacturing date for my prize in the Duff Book Series, and apply the finish that is correct for the date.
- 2.If I wanted to give the stock a look of a well maintained rifle of the period, as opposed to a rifle straight out of the Armory Packing Case, I'd go with the original finish from the Armory (linseed or tung oil), and then devote my time and effort to using the constantly rubbing in of many coats of (boiled) linseed oil (or my beeswax finish below).
- 3.Pretty finishes are truly subjective... I personally HATE the glossy appearance of the "high gloss polyurethane" finishes, although the eggshell (or subdued finishes are ok and very serviceable). I also never cared for the Linspeed Oil or Tru-Oil finishes, but they kept the Inspecting Officers happy...
- 4.If I were building a match rifle that might well be subjected to the Camp Perry rain storms, I would most definitely would use the polyurethane type finish on the inside of the stock, and put an attractive and waterproof finish on the outside.

I have a personal favorite that combines the traditional hand rubbed linseed oil finish with the weather proof qualities of the polymer finishes and looks like you spent your whole life working on the stock. It consists of a mixture of 1/3rd Linseed Oil, 1/3rd Turpentine (acting as a solvent), and 1/3rd Beeswax, gently melted together over something other than an open flame (an old-time radiator used to work well). When it is well melted, it should be stirred and left to congeal... It turns into a paste that makes a great (military style) finish that looks like it took a million years to apply. Repairs easily, even in the field. Got this one from an old gent at Perry back in the Mid-50s who looked like he had personally used it on his issued Trapdoor Springfield... I went home and tried it, and have been using it every since.

As I said before, I will be posting the various finishing techniques shortly, and I will cover the exact method of applying my linseed/beeswax/turpentine finish in detail in the article.

Best regards,

Dick