After writing an online essay about Listo mechanical grease pencils (aka china markers, crayon pencils, etc.), I took an inventory of all the other brands of "markers" that had stuck to my hands over the years. I found two dozen! When I stroll the outdoor and indoor antiques and collectibles markets in this area, I pick up anything that looks like fun and is in my price range, i.e. cheap - - Frank Dubiel (RIP) and I had a lot in common. (Also, if you've read my other essays, you know I am first and foremost an Autopoint, Realite and Realpoint collector.)

So I'm going to show you a sort of "parade" of markers which 1)vary between mechanical instruments and simple "clamp the lead" devices, 2)use a wide variety of diameters of grease or crayon type leads, and 3)are made from various materials like wood, plastic, and metal. I'll lead off with Autopoint's sole offering first, then retreat to what I suspect is the oldest marker in my collection, and work toward the most modern of the markers that I found.

A WORD ABOUT MARKERS AND LEAD REFILLS SIZES: Autopoint, Listo and many other manufacturers made "checking pencils" along with their production of "normal" mechanical pencils, especially in the 1920s, 1930s and 1940s. Autopoint probably made a hundred different styles of "regular" mechanical pencils, but it also made a wide variety of "checking" pencils over those years. Most of Autopoint's early mechanical pencils either used .046" diameter ("standard") or .036" diameter ("real thin") leads, but its "checking" leads were .076" in diameter (or ~1.93mm). The early "checking" pencils made by Listo Pencil Co. also used .076" diameter leads. Many other pencil companies also produced what they termed "checking" pencils, but the most common diameter of leads for the other "checking" pencils was probably .120" (or ~3.05mm). Similarly, one manufacturer might have called its output "checking pencils", while another referred to them as "crayon pencils or "china markers". This essay simply excludes the .076" diameter lead "checking" pencils of both Autopoint and Listo, since they've been discussed in other essays available on vintageautopoint.com. That leaves a nice sampling of other manufacturers' markers (we'll use the generic term "markers") which use the .120" diameter and larger leads to review in this essay. Based on my limited experimentation, those .120" diameter leads can be easily found even 50 or 70 years after they were produced, and appear to be readily interchangeable among the various manufacturers' markers which use that diameter of lead refills.

▼ Figure 1. This is my sole Autopoint marker. It is a simple "clamp" type lead holder. Under the shiny metal writing tip are 4 very thin brass "fingers", in a circle. You simply unscrew the shiny metal tip, insert a lead of .156" diameter into the center of the 4 brass fingers, and screw the writing tip back into place. The crayon leads which fit this pencil are the same .156" diameter as those used by most Listo's mechanical grease pencils.



▼ Figure 2. This marker appeared in Autopoint's 1954 catalog of business gifts, and was identified as Model No. 4. There is nothing inside the top cap, which is merely decorative on this particular style of Autopoint pencil. The marker is just over 4-1/2" long, and just over 3/8" in diameter.



▼ Figure 3. Here's a close up of the thin "brass fingers" part of the clamp that holds the lead. You have to unscrew the writing tip to adjust the length of, or to replace, the lead – on "clamp" style markers.



▼ Figure 4. I believe these next two markers may be the oldest ones in my possession. Both have painted wood barrels, and both are "clamp" style markers with relatively sophisticated "clamps". The top one is imprinted "Made in U.S.A. L & C Hardtmuth, Inc. No. 48", and is about 5-1/4" long. The crayon lead in this marker is about 5.5 or 5.6mm in diameter. And the 4 "fingers" that stick out from the end of the barrel, which do the actual clamping, are long and constructed of thick metal, in contrast to the Autopoint's more flimsy clamping "fingers". This one has nice patches of knurling on both the barrel end and the metal tip which needs to be unscrewed to adjust/replace the lead.

The bottom marker is imprinted "Made in Bavaria No. 2525 Universal Paper Co. N.Y.", and is about 6-1/8" long. The 4 "fingers" that stick out from the end of the barrel, which do the actual clamping, are made from thinner metal than the Hardtmuth's, and the lead diameter is smaller at about 5.1mm. And this pencil has knurling only on the part of the writing tip that is removable.

Both of these wooden pencils are about 11mm in diameter, which makes them feel great in the hand. And if they're close to a hundred years old now, it's likely that they'll last at least another hundred years, based on their excellent construction (absent a few paint chips).



▼ Figure 5. Here's a close up view of the Hardtmuth's clamp, taken apart.



Figure 6. This image, and the related image at Figure 7 below, are presented with the permission of Dr. Ibrahim Abou-Saad, Associate Professor of Economics, Lone Star College (TX). He had the pleasure of finding another identical L & C Hardtmuth clamp style marker, complete with an unused box of refill leads.

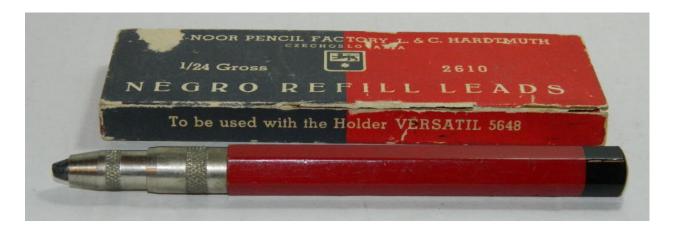


Figure 7. This is what the refill leads look like inside the box. Each lead is individually labeled with the name of the manufacturer, the country of origin, and the model number "2610". And all the leads sit on rippled cardboard, to better preserve them. When they're marked as "1/24th gross", you know they're old school. (Note: Hardtmuth says the leads for a #48 "holder" should be #2018 leads; no harm, no foul, they really look the same except for the stock number.)



▼ Figure 8. These two identical dark blue paint over metal "clamp" style markers are marked on the barrel in raised letters "Eberhard Faber U.S.A.", and on the next line "Reform". The chrome pocket clips are inscribed vertically with "E Faber USA" and some vertical lines below that. The 2 "fingers" that stick out from the end of the barrel, which do the actual clamping, are made from thinner metal than the Universal Paper Co. model above, in Figure 4. Although these markers are constructed of metal, because they are coated with paint, they're frequently found like these, with chips in the paint coating. The knurling on these 2 pencils is limited to the end of the writing tip, next to the end of the barrel. Each marker is about 5-1/4" long, and about 8mm in diameter. These Reform marker pencils use crayon leads about 3.75mm in diameter.



▼ Figure 9. Early Reform marker leads came packed 4 to a tube, in wood tubes about 9/16" in diameter and about 4" long. You can deduce the color of these marker leads by using the marker "stock numbers" in Figure 11, *infra*.

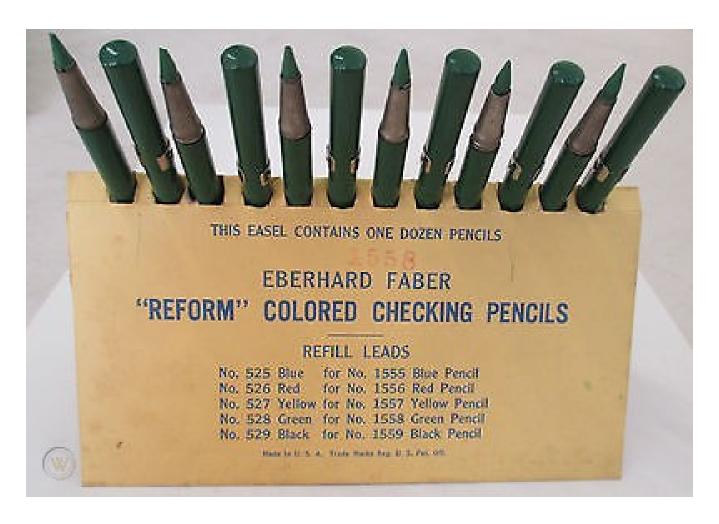


▼ Figure 10. Note1. This is the original display box of a dozen Eberhard Faber Reform markers that some lucky guy (to collectors, "sumgai") found intact. They were termed "checking pencils" by Eberhard Faber, and have pointed leads just like the pencil I filled with the "hacked" lead refill. You can see that these green examples are identical to my 2 dark blue examples, in Figure 8 above, except that several of these have much larger chips in their paint.



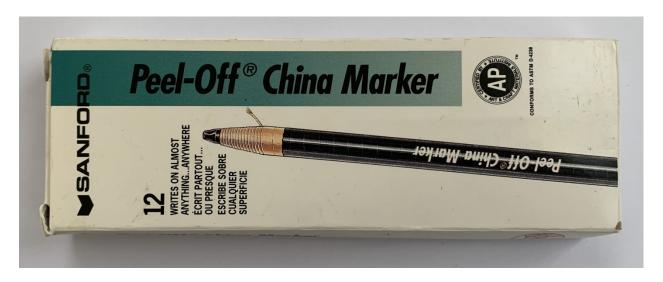
These Reform "checking" pencils were produced c.1930. They appeared in Eberhard Faber's illustrated 1930 "Pocket Catalog", at pages 76 and 77. They were described as "Metal clutch-action pencils, 5-1/2" long, in colored enamel finishes to match colors of leads, with nickel ends and fitted with nickel pocket clips." They were packed one dozen to an easel-back box, and ½ gross in a carton. They were priced at \$14.40 per gross. And they were produced in blue, red, yellow, green and black. The refill leads were also priced at \$14.40 for a gross of tubes of leads. (Note that in this essay I refer to this style of marker as "clamp" markers, when in fact they are also often referred to as "clutch pencils". Simply my preference based on the way they operate.)

▼ Figure 11. Note 1. This is the rear view of the original display box of a dozen Eberhard Faber Reform markers that some lucky guy (to collectors, "sumgai") found intact. This side of the easel shows the individual stock numbers of the "155X" series markers, on the right, and the individual stock numbers of the related "52X" lead refills which match the colors of those markers. Just above the "Eberhard Faber" line in this image, you can see it was hand stamped (model) "1558", which corresponds to the green markers in the easel, according to the individual stock numbers in the chart at the bottom of the easel.



Just in case it's not obvious, these "clamp style" markers come apart at the joint between the end of the colored barrel and the uncolored metal writing tip. The writing tip is knurled to help you grab it with your fingers. Loosen the clamp and the lead falls out of the marker, or back into the marker, depending whether you're holding it upright or upside down. It's best to hold it point up first, so when the clamp is loosened the lead doesn't fall out of the pencil and on to the floor. Once the clamp is loosened, just turn the marker point down and catch the lead in your fingers. The pull the point of the used lead a short distance out of the clamp, hold it there and twist the clamp tight. The marker is then ready to write again.

Please permit me a minor digression. I'd like to tell you how to very cheaply "clamp" style markers with other manufacturers' crayon leads. I saw this "hack" in an artist's YouTube video, and its simplicity tickled me. I believe that one of the least usable styles of "marking" pencils is the type that has a single crayon lead down its entire length, and the lead is wrapped in many layers of thick paper, with a lengthwise string down the inside of the pencil, next to the crayon lead. Like these Sanford china markers. \blacktriangledown Figure 12. below.



When the lead in one of the Sanford markers gets too short to use, you simply pull the string back toward the top of the pencil about 1/4", which rips a gap in the paper covering the lead, and then peel off the layers of paper exposed by the "cut" which the string made. I hate them. They're hard to use since you almost always pull the string too hard, and after peeling back the paper layers thus exposed you end up with a piece of crayon lead sticking out that's too long to be easily used. BUT, the crayon lead in those pencils is about 4mm in diameter, which is just about the same as the ~3.75mm diameter of actual Reform leads. So for the Reform markers in Figure 8 above, you can actually use a lead "resourced" from the box of Sanford "peel off" china markers above. Because the Reform pencil is a "clamp" style marker, it has the ability to clamp down on lead refills which are slightly under or oversize. So the Sanford marker's piece of lead works fairly well in the Reform marker, and is a good bit longer than actual Eberhard Faber Reform leads so it will certainly write for a much longer time. (Editor's note: The above usage of "resourced" leads in the Reform marker is true – it works. But 4mm is the absolute top limit of the Reform marker's clamp mechanism, and the "resourced" lead refill is therefore a very tight fit. On the other hand, Listo's mechanical grease markers use a lead almost exactly 4mm in diameter, and thus the "resourced" lead refills seem like a much better fit in the Listo markers. But for the Listo marker, you need to cut the "resourced" lead refills into about 1-5/16" long pieces.)

▼ Figure 13. Note 1. This is another Eberhard Faber marker, with the marker leads that fit. It is clearly out of chronological sequence, but I wanted to keep it with the other Eberhard Faber markers. This marker may appear to be a "clamp type" marker based on the knurling at the top end of the metal writing tip. But it's not! When I acquired this picture, I didn't yet own one of these Eberhard Faber markers. Note that the leads are 2-1/4" long and .120" in diameter, and thus may well fit a number of other manufacturers' markers.



▼ Figure 14. I finally acquired one of these Eberhard Faber crayon markers. The pocket clip is longitudinally marked "E . FABER . USA .", and the barrel is round. The marker features a propel/repel/expel mechanism which still works perfectly. The marker is almost 5" long, about 9mm in diameter, and uses .120" diameter leads. Knurling at the end of the barrel makes it very easy to propel and repel the crayon lead. The mechanism works very smoothly. However, despite some grunting and pulling, the internal mechanism does not appear to be removable. I won't try to get it apart again until I can see how the manufacturer assembled the marker.



▼ Figure 15. Note 1. These blue Eberhard Faber crayon markers were offered in boxes of a dozen (obviously a few markers are missing from this box). See also Figure 16, *infra*, for more information about the model numbers for these markers.



▼ Figure 16. Note 1. This is the model number information from the side of the box of a dozen blue Eberhard Faber model no. "585" crayon markers, in Figure 15, above.

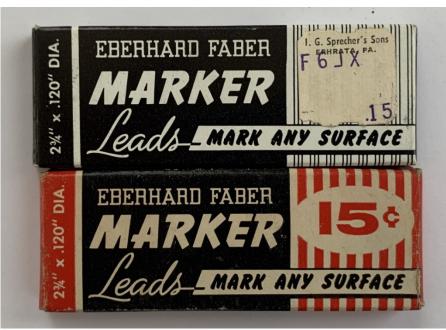


These Eberhard Faber crayon markers were offered in a variety of colors, as follows: No. 585 is blue, no. 586 is red, no. 587 is yellow, no. 588 is green, and no. 589 is black. Refill leads are offered in the same colors, and are identified with the numeral "1" added to the front of the marker stock numbers. The correct leads for the yellow Eberhard Faber marker in Figure 14, *supra*, would thus be No. 1587. And all of the refill leads colors and stock numbers are listed on the front of the Eberhard Faber box in Figure 15, above.

▼ Figure 16A. Note 1. And this is the back of a box of Eberhard Faber markers. Note the remark about the propel, repel, expel movement or mechanism.



▼ Figure 17. Here are 2 different, perhaps newer Eberhard Faber packs of .120" diameter marking leads, No. 1589 black and No. 1586 red. These boxes are priced at 15¢ each, and are about 3" long. Each box contains a grooved wooden tray with 4 leads, eminently usable in other manufacturers' markers. (I. G. Sprecher's Sons is a really old school hardware store in Ephrata, PA that I often patronized in the 1960's, but is now closed.) And the stock numbers of these refill leads tie right in to the stock numbers of the Eberhard Faber box of markers, in Figure 15 above.



▼ Figure 18. This is a pretty sturdy metal marker. It's imprinted just below the top knurled knob "Redipoint", next line "Ingersoll", next line "Patented-Made in U.S.A.", and there's a fancy curved line from the left side of the "R" in Redipoint, over the top of the "Redipoint" imprint, and down to the final L in "Ingersoll". You twist the top cap counterclockwise to remove the lead advance mechanism, to refill the marker with crayon lead. The marker is about 4-7/8" long, and about 8.5mm in diameter, and probably had a pocket clip when it was new.



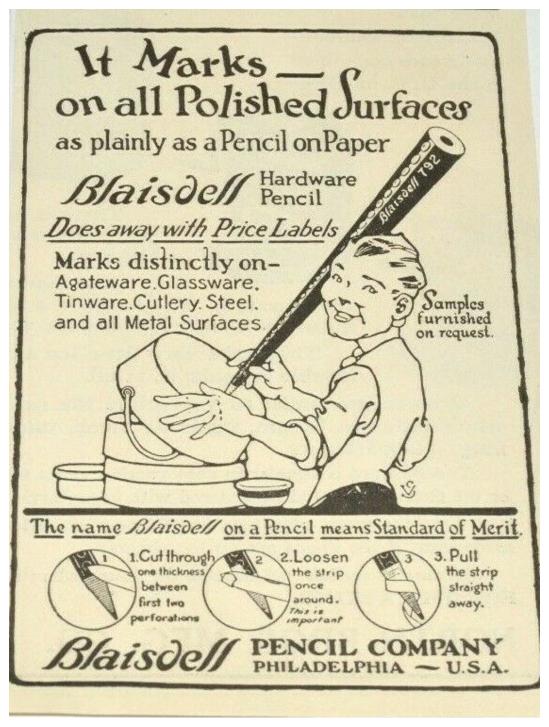
▼ Figure 19. The Redipoint lead advance mechanism below is as long as the pencil, and has a lengthwise slot that permits the lead holder (with the two small upward facing protrusions - look just to the right of the "strap" around the mechanism near the left side of the image below - which two protrusions mate with the spiral grooves cut into the walls of the pencil barrel) to move up and down most of the length of the pencil. The round "strap" apparently insures that the lead holder doesn't get stuck in or thrust out of the end of the pencil. When the lead holder is in the position below, any remaining stub of lead can be extracted, and a refill lead inserted. The lead holder is then retracted into the advance mechanism, so the inserted piece of refill lead just fails to stick out of the end. Then the advance mechanism is pushed into the barrel of the marker (a friction fit), and the cap turned clockwise until the crayon lead emerges from the tip of the pencil. The lead for this marker is about 3mm or .120" in diameter, and thus may well fit a number of other manufacturers' markers.



▼ Figure 20. This wooden tube of Redipoint refill marker leads is about 2-5/8" long by 11/16" thick.



▼ Figure 21. The Blaisdell Pencil Company operated for many years in Philadelphia, PA. In its early years (pre-1900, and the early 1900's) it was known primarily for its "paper wrapped pencils". This advertisement (source unknown) says it all, regarding Blaisdell's early marking pencils.



▼ Figure 22. The marker below is imprinted only on the pocket clip "Blaisdell" in script, next line "Pencil Co. U.S.A." in block letters. The barrel is made of metal with a burnt orange paint coating on the outside, and the knob at the top and the pocket clip are both gold tone. This marker is 4-5/8" long and just over 7mm in diameter. Rather than having an internal lead advance mechanism like the Redipoint marker in Figures 18 and 19 *supra*, this marker appears to have an internal clamp mechanism that's not removable (I did try to remove the clamp mechanism, in vain). The piece of lead inside right now is over 3-1/2" long. To replace the lead, you simply turn the knob at the top of the barrel counterclockwise two or three turns to unclamp/release the lead, let the piece of lead fall out, then insert a new piece of lead into the barrel, and turn the top cap clockwise to tighten the clamp. This marker uses crayon leads about 4mm in diameter.



▼ Figure 23. Note1. This image came from another Blaisdell marker pencil. And it did not look like the marker in Figure 22. However, the Blaisdell marker in Figure 22 is very light weight, for a metal marker. So the mechanism has to be pretty simple. And when I tighten the clamp on the lead, the lead is clamped firmly regardless whether the piece of lead is one half inch or three inches long. So, after studying the Blaisdell patents at length and viewing probably a hundred images of Blaisdell markers and pencils, I found nothing that describes the mechanism in the marker in Figure 22. So, the "clamp" mechanism below certainly could be the type mechanism inside the Blaisdell marker in Figure 22. It's a simple metal tube, which clamps down on the lead when the tip of the metal tube at the right side of the image contacts the tapered end of the marker barrel. I'll know for sure when I find an identical Blaisdell marker in bad shape, so I can dissect it just to study it, or find a relevant patent drawing.



▼ Figure 24. Note1. This Blaisdell marker is very similar to the one in Figure 22, *supra*. The top cap is different, the pocket clip is different, and the barrel is a different color. But all in all, this Blaisdell marker is probably just a variation of the Blaisdell marker in Figure 22. The crayon lead definitely looks smaller in diameter, so that may account for part of the difference.



▼ Figure 24A. Note1. Here is a similar Blaisdell marker, c.1915 and with a bit nicer finish. I've shown it taken apart since the internal mechanism is a bit different, and is for 2mm leads. I suspect that it was produced more recently than the marker in Figure 22 above, based on both its internal and external appearance. It's got a beautiful purple barrel with a pattern of longitudinal scribed lines. Images presented with the permission of seneca.stamps, an eBay vendor.



▼ Figure 24B. Note1. This is the overall mechanism inside this marker. It looks like it still just jams the tip of the metal tube against the tapered tip of the barrel, to secure the lead in place for writing. But it may have a more sophisticated turning mechanism (on the right side).



▼ Figure 24C. Note1. This is a close up of the writing tip of this marker.



▼ Figure 25. This is a more modern blue Blaisdell marker, very similar to the yellow Eberhard Faber marker in Figure 14, *supra*. The pocket clip is marked USA horizontally at the top, and longitudinally marked "Blaisdell 120", aligned for a right handed user. It features a propel/repel/expel mechanism which still works perfectly (though the piece of lead in the marker when it arrived was broken up near the lead holder; I merely took out the large piece of lead which wouldn't retract, shook out the small broken piece from the lead holder, and then reinstalled the large piece of lead). In contrast to the Faber marker, the knurling on the Blaisdell's writing tip is much smaller and not as easy to grab. The marker is 5" long, about 9mm in diameter, and uses .120" diameter leads. The barrel is sort of paneled (it is round, but has three flat panels evenly spaced around the barrel) so it doesn't roll off the table. The mechanism works very smoothly. After some grunting and pulling, the internal mechanism does not appear to be removable – in spite of my somewhat tentative efforts. Since this is the only marker of this type in my possession at the moment, I will not be making further efforts to get it apart – pending me finding the patent for this marker, so I can see how the manufacturer assembled the marker. (Note that for a long period of time Philadelphia based Blaisdell was a subsidiary of Eagle Pencil Company, and later of Berol Corporation.)



▼ Figure 26. Note 1. Here's a group of these "Blaisdell 120" markers, in patriotic colors.





◆Figure 27. Note 1. This advertisement appeared in *Analytical Chemistry*, as published on October 1, 1958, and thus dates the "Blaisdell 120" markers in Figures 25 and 26 above, to the year 1958 or thereabouts. However, the ad touts the Blaisdell marker as a "Du-All mechanical pencil". But don't lose faith. I enlarged the original image, and the pocket clip is actually marked "Blaisdell (model no.) 120", just like the "Blaisdell 120" markers in Figures 25 and 26, *supra*. So it looks like Blaisdell made a name change for this ad, not a difference.

A patent for Blaisdell's "Du-All" trademark phrase "for mechanical pencils and refills" was filed 12/11/1957, and was granted at Serial number 42,197. First use was claimed by Blaisdell on November 14, 1956.

▼ Figure 28. Note 1. This is a somewhat different, likely newer Blaisdell which is clearly marked as the "Du-All" marker. I don't personally have one of these "Du-All" markers, but they strongly resemble the "Kwik-Klik Style CA-1" marker in Figure 39, *infra*. I assume that, similarly, the green top simply twists to advance and retract the crayon lead. I don't know what diameter crayon lead that these particular markers utilize.

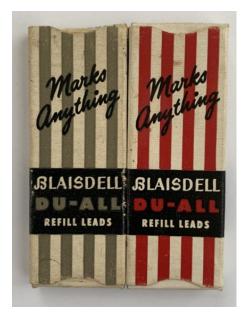


These "Du-All" markers also came with a red top, presumably with red marker lead.



▼ Figure 29. Note 1. Some leads for Blaisdell's "Du-All" markers came in a box of tubes.





◆Figure 30. Here are two bright packages of Blaisdell "Du-All" marker lead refills, which may well fit the Blaisdell "Du-All" markers in Figure 29, above. These marker leads are in a wooden holder inside the cardboard boxes, and each box holds 4 "Number 1200" replacement marker leads – black leads on the left, and red leads on the right. These 3" long lead refills are just less than 3mm in diameter.



Figure 31. This is another way Blaisdell packaged their "Du-All"refill marker leads, here termed "chinamarker" leads. They are 2-3/4" long, .120" in diameter, and according to the box tab are stock number R-1200. These are likely older than those in Figure 30.

▼ Figure 32. Note 1. I don't know how Blaisdell got from "Du-All" to "Marxal". But clearly these crayon leads are 2-3/4" long and .120" in diameter, so they would certainly fit the "Blaisdell 120" markers.



The Tweeten Markers and Saga: Oscar Henry Tweeten (hereinafter OHT, for simplicity) was born in June, 1883 in Spring Grove, Minnesota. (Based on my research, there are an awful lot of Tweetens and Twetens in Minnesota, Iowa and Illinois.) He apparently went to Chicago to seek his fortune, much like Charles Rood Keeran of Autopoint fame. To this day there is a company in Chicago known as Tweeten Fibre Co., Inc. which specializes in billiard equipment and supplies, and is apparently well known and regarded in that industry. Their web site indicates that the Company traces its roots to 1912. The current president of that Company is apparently OHT's grandson, who has indicated that there were actually 2 separate entities back in OHT's day, and that they "merged" in later years. I suspect that I know what happened. OHT apparently used "parallel universes" for his business interests. The Index of Trademarks for both 1963 and 1964 lists what appears to be a transfer of the "Elk Master Tip" trademark, serial no. 190,231 from Oscar H. Tweeten, d.b.a. (doing business as) Tweeten Fibre Co., Not Inc., to Tweeten Fibre Co., Inc. (The "Elk Master Tip" was apparently a very soft tip for the end of a cue stick, which probably permitted very good control of the billiard balls when they were struck.) So there were apparently 2 separate Tweeten Fibre companies, one that OHT ran as an unincorporated entity, and another he was probably involved in which had been incorporated. In 1963 OHT would have been about 80 years old, and he might well have been transferring one of his key business assets back to the "family corporation" while he still could. This transfer might well explain how OHT kept some business affairs separate, from the incorporated entity of the same name, which entity likely included other family members (and is now being run by his grandson). So much for OHT's "parallel (business) universes". OHT must also have been a "switch hitter". As you will see below, over a fifteen or more year span OHT invented and patented several different examples of a "large diameter crayon pencil", designed to be fastened via a chain to the scoreboard at a bowling alley, and used to record bowling scores. At the same time he was heavily involved in the development and marketing of professional billiard equipment and supplies, the same business which still exists on West Hubbard Street in Chicago today, and which seems well known and highly regarded among billiards players and enthusiasts. So I can certainly imagine OHT in Chicago during Prohibition. Spending his spare time both bowling and playing billiards (and of course carrying his own cue stick), at smoke-filled venues with everyone sneaking out the side doors every so often to enjoy their favorite beverage. And Elliott Ness scheming how to stop the flow of all that booze into the Chicago speakeasies. OHT must have ultimately done well, and he and his wife Zena shared their wealth with his home town by being a major benefactor of the Tweeten Memorial Hospital and Convalescent Home in Spring Grove, Minnesota in about 1962. That facility is now known as the Gundersen Tweeten Care Center. In 1967 OHT was named the "Industry Service Award Recipient" by the Billiard and Bowling Institute of America, and lived in Miami Beach, FL at the time. So he must have been a pretty good "switch hitter". OHT died in May of 1972 at age 88, and was buried in the Trinity Cemetery in Houston County, Minnesota. Now on to OHT's "bowling score markers".

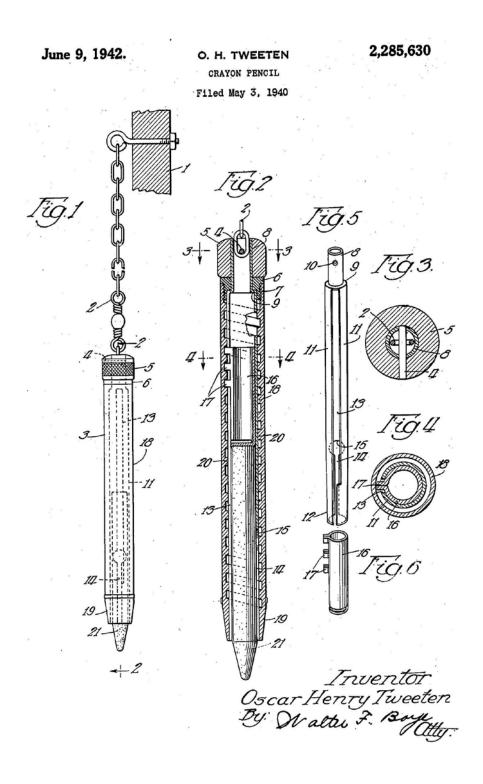
▼ Figure 33. The early marker below is a "Tweeten bowling score marker". As described in subsequent patent applications, "This invention relates to a pencil... embodying a relatively large marking element, so that the invention in one form is adapted particularly for making heavy impressions as in the instance of recording bowling scores". The rust colored marker below has a plastic or fibrous barrel and is imprinted longitudinally along the barrel "Manufactured By", next line "Tweeten Fibre Company", next line "Chicago - U. S. A.", and further around the barrel "Pat. Applied For". This marker is also imprinted just below the turning knob at the top of the barrel, inside a pair of stripes around the barrel, "Crayon Pencil", next line "No. 620". There is also a pair of stripes around the barrel where the lead emerges. The pencil is almost 5-1/4" long, 7/16"in diameter, and the "spring loaded" pocket clip is imprinted "Argus Mfg Co. Chicago Ill U. S. A." on one side, and "Pat. Feb. 21 1922" on the other side. It was my initial impression that this marker was patented by OHT. However, I now believe it was never granted a patent. How do I know that? Well, first of all I didn't find one despite substantial patent research. And then I took the marker apart.



▼ Figure 33A. Below is what this marker looks like when disassembled. I simply twisted the black top turning knob counterclockwise, and the internal mechanism pulled right out. No wonder OHT probably never got this crayon pencil patented. It's a simple "clutch pencil" mechanism, which design has probably been around since the late 1800's. If you need to advance the lead, you unscrew the top section just like below, adjust the lead to where you want it, and then screw the mechanism back into place. All manual advance and retract. Twisting the top knob clockwise simply forces the end of the metal tube into the tapered end of the barrel, and that crimps/clamps the slotted metal tube down enough to hold the crayon lead in place.



▼ Figure 33B. The first patent actually granted OHT for a crayon pencil was No. US2285630A, applied for on May 3, 1940 and granted on June 9, 1942. Below is the patent drawing.



There are several things to note from the OHT patent drawing in Figure 33B above. Most obvious, in Figure 1 of the patent drawing above, is that the crayon pencil is designed to be attached to the bowling scoreboard via a chain, from a sort of ring top on the pencil to an eyebolt at the other end of the chain. Also, this marker has a knurled top turning knob virtually identical to the marker in Figure 33 above, and both knurled turning knobs have a very tiny screw ("pin") in the side of the knob (not visible in these images) designed to bind the knob to the top of the internal mechanism, as well as to connect the top of the crayon marker to a chain. But, as they say in Philly on a particular television station, "the big story on Action news tonight is" that the patented marker in Figure 33B above also contains an internal screw mechanism, to advance the lead (a "screw feed"). Unlike the simple "clutch pencil style" marker in Figures 33 and 33A supra, this crayon marker has spiral grooves inside the barrel of the marker, and a "plunger" with raised spiral ridges ("ears") that ride along the spiral grooves in the barrel, to advance the lead. So OHT's design has gone from a purely "manual advance", "clutch style" crayon marker developed in an unknown prior year, to a "twist advance" type marker. (For convenience, I'll call this style marker the "1942 Patent" marker.) In the patent description OHT notes that the crayon lead can be used until exhausted, and the marker refilled simply by twisting the top knob counterclockwise until the internal mechanism may be withdrawn, sticking a lead refill into the writing tip of the mechanism, and sliding the mechanism back down into the barrel and turning the top knob clockwise until the mechanism is seated in the barrel and back in writing position.

BIG WARNING: These Tweeten markers are circa 1942. Don't think that you can just turn the top knob counterclockwise and EASILY pull out the internal mechanism! Be very careful. Old crayon leads tend to develop fine "hairs" and other external protrusions on the outside surfaces of the leads. This debris increases the diameter of the leads, which makes the crayon leads fit far more tightly inside the markers than designed, especially in crayon markers which have some kind of advance mechanism. (For further information and experiences, read my essay on "Scripto Mechanism Repair". There are a number of tips about and some pictures of how to deal with old, even rusty crayon markers in that essay, and some comments about the deterioration of the crayon leads that causes these problems.)

▼ Figure 33C. I don't personally have any pictures of OHT's "1942 Patent" markers. However, several others do, so this model must have been pretty popular. For example, the image below is courtesy of Jonathan Veley, as posted at The Leadhead's Pencil Blog. And the markers are different - the one on the left appears to me to be a ring top, all set up to be attached to the chain running to the bowling scoreboard. The one on the right has the same knurled metal top knob and small "pin" in the side of the knurled knob, but rather than a ring at the top has a ball end pocket clip. Both are imprinted "Tweeten Fibre Co." on the top of the barrel, along with "Chicago - No. 620" on the next line. And both have "Made in U.S.A. Pat. 2285630" imprinted on the bottom of their barrels, near the writing tip, as well as grooves cut into the circumference of the barrel, above and below the patent number imprints. Both markers appear to have plastic barrels and a "white skirt with threads" right under the top turning knobs. And both markers appear to be in excellent condition.



▼ Figure 33D. This is another "1942 Patent" Tweeten marker, in red. At the top of the barrel it is imprinted "Tweeten.Fibre.Co., and underneath that "Chicago-No. 620". At the bottom of the barrel it is imprinted "Made in USA Pat. 2285630". This image, and the related images at Figure 33E and 33F below, are presented with the permission of Dr. Ibrahim Abou-Saad.





◄ Figure 33E. This illustrates the tiny slotted screw recessed in the top of the turning knob, which both binds the internal mechanism to the knob, as well as provides for hooking on a length of chain.



◆Figure 33F. Here's a close up of the two grooves around the barrel, down near the writing tip, and the "2285630" patent number imprint.

▼ Figure 33G. This is another "1942 Patent" Tweeten marker, in robin's egg blue. At the top of the barrel it is imprinted "Tweeten.Fibre.Co., and underneath that "Chicago-No. 620". At the bottom of the barrel it is imprinted "Made in USA Pat. 2285630". This image, and the related images at Figure 33H and 33I below, are presented with the permission of Dr. Ibrahim Abou-Saad. In his words, (this) crayon pencil was partially melted during a try to disassemble it using a heat gun". So if you look closely you may notice some small bumps that shouldn't be there.



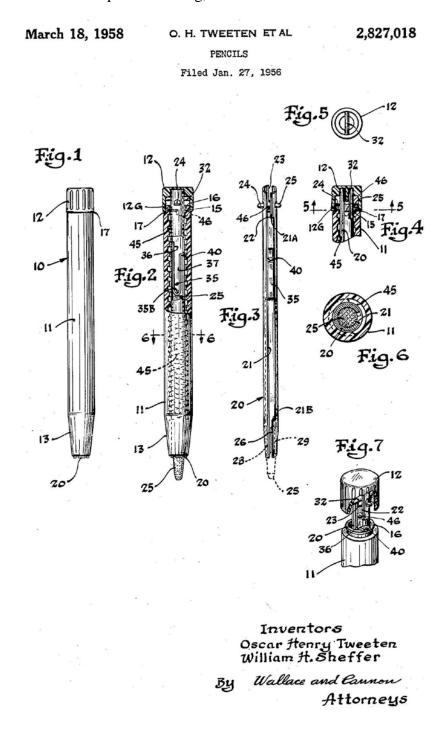


◆Figure 33H. This marker also illustrates the tiny slotted screw recessed in the top of the turning knob, which both binds the internal mechanism to the knob, as well as provides for hooking on a length of chain.



Figure 33I. Here's a close up of the two grooves around the barrel, down near the writing tip, and the "2285630" patent number imprint.

▼ Figure 33J. After getting the "1942 Patent" markers patented, OHT didn't rest on his laurels. By early 1956 he moved on, to a likely better and cheaper design for these markers. OHT and William H. Sheffer applied for a patent for "Pencils" on January 27, 1956, which was granted on March 18, 1958. Below is that patent drawing, for what I'll term the "1958 Patent" markers.



The "1958 Patent" markers are different from the "1942 Patent" markers in several ways. The "1958 Patent" marker is shorter than its predecessors, at about 5" long, and is about 15/32" in diameter. There is no tiny screw in the side of the turning knob to attach a chain. And the top turning knob is soft plastic, not metal. There is no knurling on the top turning knob, but there are some grooves in the plastic knob to assist gripping it. There are still spiral grooves inside the barrel, but the "plunger" is much simpler.

▼ Figure 33K. This is how the "1958 Patent" marker looks when assembled. There are no lines or grooves or imprints on the barrel. The ball end pocket clip reads down the center "Tweeten Fibre Co., next line "Chicago", next line "No. 620". The lead is just over 5mm in diameter.



▼ Figure 34. And this image illustrates what the "1958 Patent" marker looks like when disassembled. Note that the inside of the barrel still has spiral grooves (not visible here), but the "plunger" that follows those grooves has been simplified. The inside of the turning knob has a center "wall" or "divider", which fits neatly into the slot in the top end of the long metal tube, so the turning knob is "locked" on to the long metal tube. Turning the top knob will rotate the metal tube, such that the u-shaped plunger will follow the spiral grooves down the barrel as the top black knob is turned clockwise. (And the general condition of the remaining crayon lead in this marker illustrates how crayon leads deteriorate over time and the "debris" that may make the lead diameter too large for the marker to accept, or just create too much friction.)



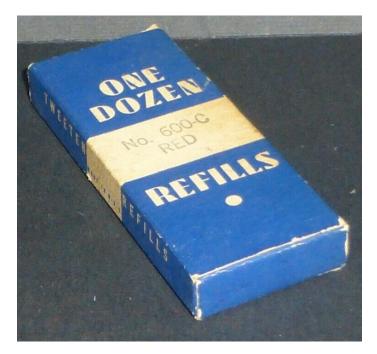
▼ Figure 35. Wouldn't you know, the day after I took pictures of my 2 unusual "Tweetens", a brand I'd never seen before, someone posted another Tweeten pencil and a box of its leads on eBay. Thanks to "clark my.yardsailor" and with his permission, here's the picture of his Tweeten, and his box of black refill leads. This black one is reportedly about 5-1/16" long and just about ½" in diameter, and appears to be the "1958 Patent" model. As scarce as these markers seem to be, it's nice to have another color marker to include in this essay.



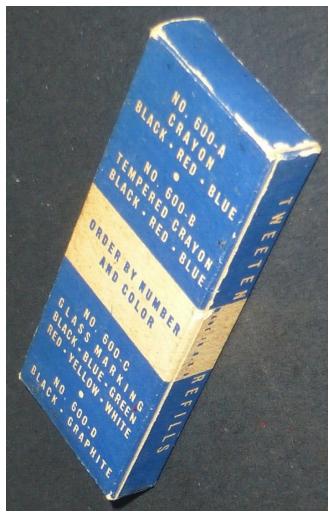


◆Figure 36. And here is the box of Tweeten refill leads No. 600-C Black, provided by "clarkmy.yardsailor". It seems obvious that such thick, pointed leads would only fit a Tweeten and a select few other large markers. The Tweeten Fibre Co. Inc. still exists at the date of this writing, but is pretty much dedicated to the sale of billiards supplies and accessories.

Figure 37. And of course, once someone starts tweetin', it never rains but it pours. The following two images are presented with the permission of Dr. Ibrahim Abou-Saad. I've included these images to more clearly portray both sides of the Tweeten pointed refill leads packages. While the specific package of leads at left below is "No. 600-C Red", the rear of the package reveals that refills are offered for "crayon leads", in 3 different colors, for "tempered crayon leads" in 3 different colors, and for "glass marking leads" in 6 different colors. The 3rd image on this page shows the pointed red leads that were in the "No. 600-C Red" box.







Several times I wondered who the "William H. Sheffer" was in the "1958 Patent". And I forgot to write a note and check it out later. This morning I found what I sought:

WILLIAM H. SHEFFER

CHICAGO TRIBUNE

JULY 13, 1992

illiam H. Sheffer, 88, the owner and president of a Chicago billiard and bowling supply manufacturing company, died Sunday in MacNeal Hospital in Berwyn. Sheffer, who owned Tweeten Fibre Co. Inc., was a past president of the Billiard and Bowling Congress of America. Survivors include his wife, Florence; three daughters, Marilyn Sandberg, Bonnie Hanson and Alyce Litz;

five grandchildren and two great-grandchildren. Visitation will be from 4 to 8 p.m. Tuesday in Ivins Funeral Home, 80 E. Burlington Rd., Riverside. Services will be at 10:30 a.m. Wednesday in the funeral home.

Can you believe it??? What luck! I found pictures of and details about 7 different examples of a grease/crayon marker most people have never heard of, made by a company that principally focuses almost exclusively on billiard equipment and supplies. It doesn't get much better than that! Moving on.....

▼ Figure 39. I've provided two pictures of this possibly unique marker, imprinted on the barrel "Kwik-Klik's", next line "NEW", next line "All Purpose", next line "China Marker", next line "Kwik-Klik Style CA-1". The pocket clip is imprinted "Kwik Klik USA". Despite trying pretty hard, my research turned up no other examples whatsoever of this particular marker. It may never have made it to production. The marker is just over 5" long, and uses crayon lead just a hair less than 3mm or .120"in diameter. The top cap doesn't appear to be removable, and turning the cap clockwise advances the lead – probably far enough to replace the lead, while turning the cap counterclockwise very easily retracts the lead.





Every time I compare these "Kwik-Klik" markers to the Blaisdell "Du-All" markers in Figure 29, *supra*, I recognize that both sets of markers look substantially identical, even to the extent of the grooves in the top of the caps. It certainly makes me wonder whether Blaisdell got their markers to the patent office and then market first, such that these "Kwik-Klik" markers never got produced in volume? I'll post an addendum here if I find out any more about these two almost identical sets of markers.

And then I ran into the "Delva" markers, which look virtually identical to the Kwik-Klik" marker in Figure 39 above, and to the Blaisdell "Du-All" markers in Figure 29, *supra*, even to the extent of the grooves at the very top of their caps. Here's a foursome of Delva markers. ▼ Figure 39A.



Each Delva marker is about 5" long, 3/8" in diameter, and uses .120" diameter crayon leads. And they feature a propel/repel/expel mechanism. Here is a close up of the sole imprint on these markers, on the pocket clips. Thus, just like Scripto (see Figure 42 *infra*), Delva was obviously a supplier of writing instruments to various U.S. government agencies. ▼ Figure 39B.



I could not find the patent that belonged to this marker. I did find that the "Delva Plastics Inc." firm was founded by Alfred T. Ligouri, and that he was granted a number of patents for ball point pens, refills and adapters, etc. Mr. Ligouri retained some of the patents himself, assigned a few to Delva Plastics, and assigned one to Scripto, Inc. There also appeared to be two other firms founded by Mr. Ligouri, one known as "Delva Pen and Pencil Co. of Yonkers, NY", in 1953, and another founded in 1948 known as "Modern Mold and Tool Corp.", which ultimately became the National Pen Company.

A bit of Delva trivia: According to the record of certain 1967 Hearings by the House Select Committee on Small Business, "the Delva Pen and Pencil Company of Yonkers, NY, and Scripto, Inc... demonstrated capability to produce (ballpoint pen) refills that will write 7.000 or more feet and... received contracts (to supply ballpoint pens) for the Post Office requirements from the GSA (the US Government General Services Administration).

▼ Figure 39C. This is a Delva crayon marker that has been "exploded" so we can view how it works. (When I can't find the applicable patent drawing, and I have a reasonable supply of a specific marker, I tend to "explode" one of them.) I believe this Delva marker mechanism is even simpler but remarkably sturdier than a Scripto marker mechanism (Figure 43, *infra*).



1. The top item in Figure 39C above is the metal pocket clip. Two metal tabs go through slots in the top of the barrel, and are folded down against the inside of the barrel to hold the clip in place. Very simple, yet highly effective.

- 2. The next item in Figure 39C above is the marker's plastic cap, which is internally "hex shaped" in the area just below where it broke apart (at the top of the section to the right of the cap band, right at the pliers marks but the internal hex area isn't visible in this picture). The next section down the inside of the cap is grooved, to mate with the large "ringed" protrusion around the top of the barrel. The bottom of the cap has a reduced diameter lip into which the metal cap band (at left) fits.
- 3. Next is the metal spiral slotted "runner", and the top plastic turning knob. The top of the knob is hex shaped, and fits tightly into the hex shaped area in the cap. The "point" of the knob also fits into the top of the metal "runner", and is internally shaped to lock into the half round cutout at the top of the metal "runner".
- 4. The next item is the "lead carrier", with two protruding tabs which permit it to be moved up and down the "metal runner", as the cap of the marker is turned. The end of the lead carrier is the same internal diameter as the crayon leads, and the round portion slides back and forth at the end of its travel (the rear tab of the lead carrier slides back and forth, with respect to the other tab) to provide a propel/repel/expel action.
- 5. The final piece is the "molded miracle" barrel. At the top, toward the cap, it is flat to provide a working surface for the top turning knob. Next it is deeply grooved, to temporarily accept the lip of the cap during assembly. The final, less deep groove in the barrel is where the metal cap band resides. Down the inside of the barrel are two straight longitudinal slots, opposite each other, in which the tabs of the lead holder ride (either slot may be used). At the writing tip of the barrel there are several "plugs" molded into the barrel to stop the lower tab of the lead holder at the appropriate place, so the rear tab of the lead holder can slide forward and eject the lead.
- 6. It appears that during assembly, first the lead holder would be placed into the metal runner, and the turning knob would be inserted into the top of the metal runner. That subassembly would then be pushed down into the barrel. At that point the turning knob sits flush with the top end of the barrel. Then the metal band would be held in place on the barrel (open edge up), and the cap would be snapped into place (the large groove in the top of the barrel would permit the cap lip to temporarily get low enough to slide under the open edge of the cap band).

It is certainly possible that, having seen how this marker is designed, I could simply "unsnap" another Delva marker cap, and take it apart. However, it is also clear that the Delva markers were not designed to be taken apart, and it is somewhat likely that if I applied enough torque to pull off the cap, I'd probably crack or break the cap and the marker simply wouldn't work properly again. So I didn't and won't be trying that.

▼ Figure 40. This is a matched set of 4 Kohinoor markers, with pocket clips imprinted "USA" at the top, laterally, and "Koh-i-noor" vertically. The set includes markers with black, blue, green, and red turning knobs at the top, and presumably, matching leads inside. Three of the four markers don't retract or advance the crayon lead. But the marker with black lead did come apart, simply by unscrewing the metal threaded cap at the top of the barrel, and then pulling out the entire lead advance mechanism (the pocket clip is firmly mounted to the pencil, and stays in place after the threaded cap is removed). The outside of the lead advance mechanism is a bit rusty, but overall almost identical to the Scripto mechanism in Figure 42, *infra*. Each marker is about 4-3/4" long, and about 8.5mm in diameter. They use leads about 3mm or .120" in diameter.

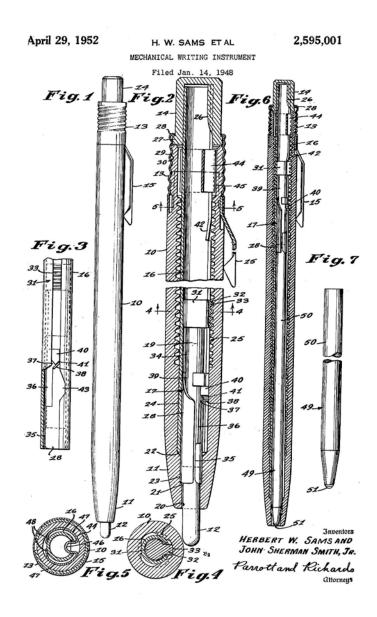


▼ Figure 41. This cardboard packet with grooved wood insert holds 4 leads each 2-3/4" long and about 3mm or .120" in diameter, which may thus also fit a number of other manufacturers' markers.



<u>Scripto Markers</u>: Over the years, Scripto produced many inexpensive crayon markers. The Scripto Pen Company originated as the M. A. Ferst Company in Atlanta, Georgia. The company's name was changed to Scripto, meaning "I write" in Latin, in 1924. In 1974, Scripto partnered with the Japanese firm of Tokai-Seiki to sell disposable lighters. Tokai-Seiki became Tokai Corporation and purchased Scripto in 1984. The company's name changed again in 1988 to Scripto-Tokai, and the headquarters moved from Atlanta to California with manufacturing operations in Tijuana, Mexico. The company discontinued all of its pencil products after the move.

▼ Figure 41A. Note 1. This is the patent drawing for Scripto's ubiquitous markers. It expired 4/29/1969.



▼ Figure 42. This is a group of 4 different Scripto markers. The top black marker is inscribed "Property U. S. Government" on the barrel, and has a pocket clip imprinted "Scripto" vertically. The second black marker is inscribed "Skilcraft – U.S. Government" on the barrel, and has a plain accommodation pocket clip forced over top of the threaded cap at the top of the barrel. The third blue marker has "U S Government" inscribed vertically on the pocket clip, and "Scripto" inscribed vertically underneath that, in very small letters. The final red marker has an accommodation pocket clip forced over top of the threaded cap at the top of the barrel, and the clip is imprinted "Scripto" from the bottom to the top of the pocket clip, aligned to be legible to a right handed user. Only a true aficionado of the Scripto brand markers could tell in which order these 4 similar Scripto markers were produced. But they are substantially identical (ignoring the barrel imprints) save for the minor pocket clip differences. Each marker is about 4-3/4" long, and about 9mm in diameter. The crayon leads are about 3mm or .120" in diameter, which may thus also fit a number of other manufacturers' markers.



As best I can tell, the "minor clip differences" in Figure 42 above are due to inclusion of at least 2 different Scripto marker models in that image. Note the top of the pocket clip in the top black marker and the blue marker. Both pocket clips are mounted through a "slot" cut into the side of the top of the barrel. The pocket clips on those markers are the same as in the patent drawing at Figure 41A above, and so are probably circa 1952. But each of them has a different imprint on the pocket clip. These markers both appear to be variations of the Scripto model W610 marker. The second black marker and the red marker in Figure 42 above both have "accommodation style" pocket clips, simply wrapped around the portion of the metal cap at the top of the barrel, which cap unscrews to remove the internal mechanism. And each of them has a slightly different imprint on the pocket clip. These markers both appear to be variations of the Scripto model W749 marker, which is clearly a somewhat later model. I'm sure that introduction of the W749 model and its simpler pocket clip was to make it easier and cheaper to produce the crayon markers. And the internal workings of both models are the same. See also Figure 43G, *infra*.

▼ Figure 42A. This is a close up of very top of the Scripto W610 marker, with the threaded metal cap or ring removed, showing the method by which the pocket clip is affixed. The pocket clip is affixed to a groove near the top of the barrel but below the threads, and the bottom portion of the metal ring is not threaded, so the metal ring can be threaded right down over the top of the pocket clip, to hold it firmly in place.



▼ Figure 43. This is the internal mechanism from the blue, early model W610, Scripto marker in Figure 42 above. The threaded metal cap at the top of the barrel simply unscrews, to provide access to the blue turning knob at the very top of the marker barrel. Once the threaded metal cap or ring is unthreaded and removed, you simply unscrew the internal mechanism from the barrel, and finally pull it out. The plastic Scripto marker has spiral grooves all the way down the inside of the barrel, and the light green ridged plastic piece moves up and down the grooves in the barrel as the top blue knob is turned, to advance, retract and refill the lead (a propel, repel and expel mechanism). It's a very simple mechanism, but unfortunately not very sturdy. Fortunately there's an abundance of Scripto markers, and parts of this mechanism can easily be replaced. Again, every one of the Scripto crayon markers I've opened up have all had an identical internal mechanism.

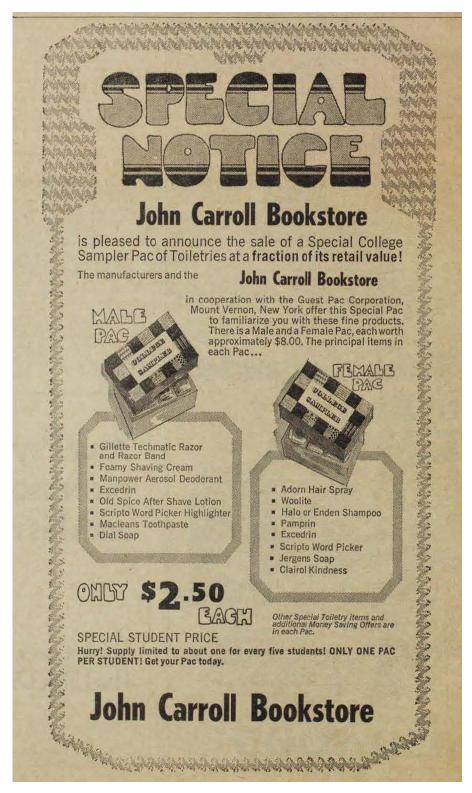




◄ Figure 43A. Note 1. The "Scripto Wordpicker Pencil" is sort of a cult item – don't know why. It's really just a yellow Scripto marker for .120" diameter leads, with a cute picture of a bird and its beak, along with the above nomenclature. But it was apparently heavily advertised to many, many college students in about 1969, and perhaps they now remember it fondly. Obviously the "Wordpicker" is a Scripto model W610, since the pocket clip is mounted in a "slot" at the top of the barrel (see also Figure 43D, infra).



■Figure 43B. Note 1. There was also a Scripto Wordpicker highlighter. Same bird and beak, similar imprint. Check out the box giving us the "full bird".



◄Figure 43C. Note 1. This is the same ad I found plastered all over a number of college newspapers. This particular ad for the John Carroll Bookstore was published in "The Carroll News", "Ohio's Best Bi-Weekly College Newspaper" on March 28, 1969. Scripto Wordpicker Highlighters (note the separation of "Word" and "Picker" in the ad) were offered in the "Male Pac". Scripto Wordpicker (Pencils) were offered in the "Female Pac" (again note the separation of "Word" and "Picker" in the ad, contrary to the imprints on those items in Figures 43 A and 43 B, above).

▼ Figure 43D. Note 1. Apparently you could save a few pennies if you bought both Scripto Wordpicker writing instruments together.



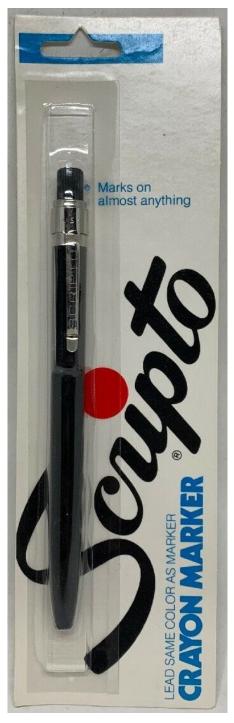
▼ Figure 43E. Note 1. And the Wordpicker "pen" (as Scripto called the highlighter) also came in pink, with a larger, matching but pink-billed bird.



▼ Figure 43F. Note 1. This set of 5 Scripto model W610 markers was merchandised with a (probably) plastic base and a perpetual calendar, by "ADGIF Company", a division of Scripto, Inc. Based on use of that "Scripto" name variation, and the location of Atlanta, Georgia, this set is most likely pre-1988 (as discussed above Figure 41A, *supra*). They still look the same as the 1952 patent drawing, don't they?



▼ Figure 43G. Note 1. This "hang card" Scripto marker looks similar to those above at Figure 42, *supra*. However, this is a pretty "late model" marker.



The manufacturer's name printed on the back of the "hang card" (below) discloses that this marker was made during the time the company was known as "Scripto Tokai", which started in 1988. And the Company moved to California shortly after the name change, so this specific "Atlanta, GA" marker is probably pretty hard to find. But as you can see, this 1988 marker still looks the same as the red marker at Figure 42, *supra*, even to the extent of the imprint on the pocket clip.



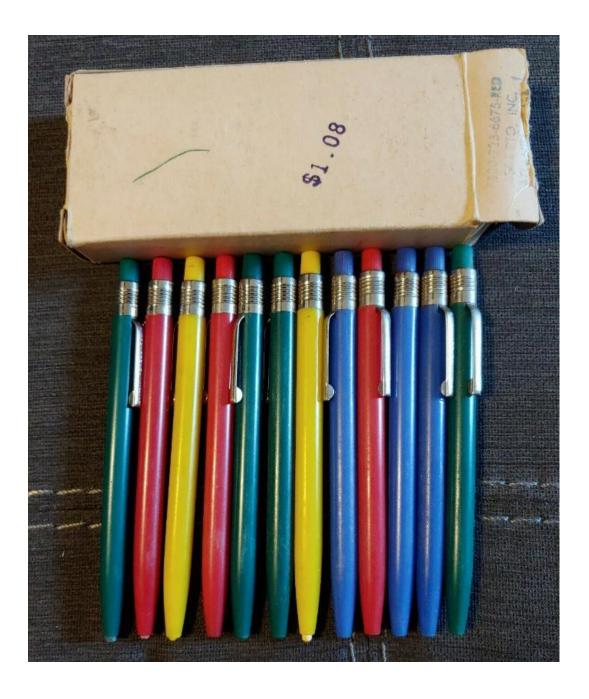
▼ Figure 44. Scripto had many changes in identifying and packaging its marker leads, perhaps because it produced them over a relatively long period of time. Below are five different package designs for Scripto's .120" or ~3mm in diameter marker leads. And note that each packet of leads features a different name for their marking leads. Each one of the packs of lead is labeled stock number "G920" on the box ends, so the leads inside are clearly the same. Each of the cardboard lead boxes is about 3-1/4" long, and contains a wooden, grooved insert for the leads. And all of these .120" leads may very well fit a number of other manufacturers' markers.



▼ Figure 44A. Note 1: Ultimately Scripto stopped producing writing instruments after 1988. And its patent for these markers expired 4/29/1969, as noted in Figure 41A, *supra*. Apparently someone else found those patents and started producing these markers once more. That "someone" appears to be the National Industries for the Blind (hereinafter "NIB"), a "preferred provider" to the U. S. Government, which adopted "Skilcraft" for its trade name in 1952. This is likely a box of early NIB "model W749 style" markers, replete with the US Government procurement number on the box end. Still look pretty similar, don't they? Note the accommodation pocket clips, with a slightly different tip.



▼ Figure 44B. Note 1: I chuckled when I saw this image. This is another relatively old box of 12 Scripto multicolored model W610 crayon markers and their box (note the "slot" in the barrel above the pocket clip). The (partial) end of the box is similarly labeled with the Federal procurement stock numbers. The price on the box is only \$1.08 for the box of twelve markers. That's quite a deal! Must be the Federal Government price.



▼ Figure 44C. Note 1: This is likely a box of more recent NIB markers. This box has the Skilcraft trademark at the top, and an "AbilityOne" trademark at the bottom. The NIB "refreshed" its Skilcraft trademark in October, 2019 (two broad "S's" laying on their side), and now apparently uses both trademarks. The markers look like "model W749 style" markers; the pocket clips look like those in Figure 44A, *supra*. And \$0.99 was a bargain for the box full.



Currently the AbilityOne web site offers the above markers in orange, black, red and yellow, and has a link to special prices for Government entity customers. The U.S. AbilityOne Commission is an independent Federal Agency which administers the AbilityOne Program, of procurement from various preferred vendors like the NIB.

▼ Figure 44D. Note 1. This is a package of 6 "All-Write Wax Pencils" from Alphapointe "Vision for Life" which has headquarters in Kansas City, MO as well as presumably a manufacturing location in Richmond Hill, NY. It apparently has the same "low vision/blind" type of workers as NIB, and may be affiliated with NIB. Its alphapointe.org web site indicates that one of the many writing instruments that it produces are "china markers (grease pencils)". This certainly could also be the manufacturing facility for NIB, which claims to have many likeminded affiliates. They still look like "model W749 style" markers, don't they?



▼ Figure 45. I was pleased to find that my friend Al Kahn at David Kahn, Inc., which produced the Wearever line of writing instruments, also made a crayon marker. This is a nice solid propel/repel marker, with a knurled tip (which appears very similar to the "Blaisdell 120" marker at Figure 25, *supra*). It is about 5" long, and about 3/8" in diameter. Overall it also appears similar to the Eberhard Faber marker at Figure 14, *supra*. All 3 markers use the same .120" crayon leads (see Figure 47, below).





◆Figure 46. This is a close up
of the Wearever pocket clip.

▼ Figure 47. These 2 images show both sides of a tube of 4 Wearever marking pencil leads. Each lead is 2-3/4" long, and .118"/.120" in diameter (fits either size?), and these are black leads. Note that these leads are also likely usable in other manufacturers' markers.



▼ Figure 48. These 2 "markers" are really double ended tools. They're both imprinted "Maier's Sunbeam Bread", and were likely provided to that bakery's warehouse and delivery personnel. As shown on the top tool, one end holds a crayon marker and the other end holds a small razor knife. You can just picture a Maier's route man marking his orders or his cases of bread with the marker, then slicing open the cartons of bread loaves with the razor blade end. The center of these tools is a piece of aluminum tubing that seems rather thin. The rest of the tools are made of heavier weight aluminum that seems much more robust. Each tool is about 5-5/8" in length, and the knurled sections are about 9.7mm in diameter. The marker end of each tool uses leads that are just over 5mm in diameter. Both markers are basically identical, although someone juxtaposed the end sections on the bottom tool, compared to the top one. The bottom tool is also missing the razor blade, the crayon lead, and the plain "border style" pocket clip, but they came as a pair and I kept them both.



▼ Figure 49. This marker may not be intended to be a marker at all. It is a "Worther Shorty 3.15mm pencil" which is made in Germany by Hamilton Pen Company. It is still listed on Amazon but not now available there, and cost \$10+ from several sellers when it was available. It is intended for use with very soft 7B graphite lead, and can thus write on almost all materials, including wood, according to the manufacturer. The manufacturer indicates "There is no fuss with sharpening the point – the leads automatically wear to a conical shape as you write. Advance or retract the lead with the pushbutton spring clamp mechanism." Accordingly, this is simply a modern pencil that uses a spring-loaded clamp mechanism to hold its lead, which opens up and lets the lead fall out and/or be replaced just by holding down the spring loaded pocket clip. The pencil is 6-paneled (sided), about 9/16" in diameter, and about 4-1/8" long. The lead it uses is about 3mm or .120" in diameter (officially 3.15mm).



Now I'm from a small town. I don't believe everything the manufacturers say. And I can see a different use for this clamp pencil. Just like my "hack" of leads for the Eberhard Faber Reform pencils starting at Figure 12 above, I believe these Worther pencils were made to be hacked. Remember, this is a "clamp" pencil with spring loaded "clamp jaws" at the end. And I've described above a number of markers that use "about 3mm in diameter" crayon leads! So what'd I do? I pushed down on the pocket clip, let the 7B 3.15mm lead drop out, and shoved in an "about 3mm in diameter" Scripto 2-1/4" long .120" diameter "crayon lead", fresh out of a box from many years ago. Voila. Works like a champ! The Worther pencil hardly knows what lead it's supposed to use, and I'm not telling it any different. The only small problem with using crayon or marker leads in this pencil is that marker leads aren't completely smooth on the outside, like graphite leads are. The outside surfaces of marker leads are frequently "hairy" or "dusty" from the gradual breakdown of the outer surfaces of the crayon leads. This makes crayon leads relatively rough such that when you want to extend the "lead" by pushing down on the pocket clip and shaking the pencil downward, it can be hard to get the marker leads to drop down/extend. Other than that, sheer bliss! And Scripto and other .120" crayon leads can be found virtually everywhere.

▼ Figure 50. Note 1. Here's some additional information about the "Worther Shorty 3.2mm Clutch Pencil" made by Hamilton Pen Company.

WÖRTHER - WORTHER SHORTY 3.2mm CLUTCH PENCIL - available in 10 bright colours The Shorty clutch pencil from Wörther is manufactured in Germany using high density plastic and quality metal parts. The 3.2mm soft graphite lead is great for drawing and sketching but can also be used to write on many materials including wood, metal, paper and plastic. And as an added bonus this pencil can be converted into a ballpoint pen by purchasing the special clutch ballpoint Available in colours Purple, Orange, White with Black

clip, Yellow, Black, Black with Grey clip, Red with Black clip, Green, Blue and Grey. Comes with 2 spare leads.

Please visit our eBay store to view our full range of Wörther items and other quality writing and drawing



▼ Figure 50A. Note 1. This is another marker to illustrate and comment upon. It is made by Carmel Industries, which bills it as a "Specialty Clutch Pencil for holding soft greasy leads. The leads contained within the Paper Wrapped Grease Pencils (China Markers) fit inside this holder. No longer necessary to have the inconvenience of using the China Marker (peeling back paper with a pull string to access china marker lead). These soft leads glide smoothly onto most surfaces." I haven't seen these modern, large diameter clutch pencils widely advertised, and of course I don't own one yet. So I wrote to the Company at carmelindustries.com, and requested a sample clutch pencil and a few leads so I could review their product and comment upon it here. It appears you simply push the top button of this "clutch pencil" to advance the lead, and hold down the top button to manually retract the lead. But I hope to see for myself. I'm anxious to see what size leads these clutch pencils utilize, and whether they may be taken apart to be cleaned of "lead dust".



▼ Figure 50B. Note 1. This is another marker to illustrate and comment upon. It is made by Markal, and is their Trades Marker. The manufacturer, at "markal.com" indicates that it is a "mechanical china marker". It looks much like a modern clutch pencil with a plastic barrel. I haven't seen these particular clutch pencils widely advertised, and of course I don't own one yet. So I wrote to the Company and requested a sample clutch pencil and a few leads so I could review their product and comment upon it here. It appears you simply push the top button of this "clutch pencil" to advance the lead, and hold down the top button to manually retract the lead. But I hope to see for myself. I'm anxious to see what size leads these clutch pencils utilize, and whether they may be taken apart to be cleaned of "lead dust".



▼ Figure 51. There are a number of other manufacturers who must have produced markers, or who made refill leads for markers regardless. First is a 4" long cardboard box of 6 Eversharp "Red Top" "checking" leads, laid end to end in a wooden insert with 3 grooves. Each lead is 2" long, and about 3mm or .120" in diameter, and thus widely usable in other manufacturers' markers.



▼ Figure 52. Just like the heavily advertised insurance company, here is a battle-scarred tube of the "General's" marking leads. They are .120" in diameter, and 2-3/4" long (that inscription is very hard to read) and thus widely usable in other manufacturers' markers. This image presented with the permission of Dr. Ibrahim Abou-Saad.



▼ Figure 53. This is a box of Dixon Phano china marking No. 680 leads. The box contains 3 leads each 3-1/2" long, in a protective wooden tray. Each lead is approximately 4.5mm in diameter.



▼ Figure 54. This image shows different sides of two tubes of "Checko" checking pencil leads made by the Bergen Pencil Co. Each tube contains 4 leads, 2-3/4" long and .120" in diameter. The top pack contains green leads and the lower tube contains blue leads. And of course, this size of marking lead is readily usable in other manufacturers' markers.



▼ Figure 55. Last of the marker lead containers is this wood tube 3-7/8" long by 9/16"in diameter, with 4 No. 2204 Black Colored Leads by Wallace Pencil Company. Each lead is about 3.8mm in diameter.





WHAT DO I LIKE BEST? After all of these comments about markers, do I have a favorite? First, you know I'm an Autopoint collector. I'd never use an Autopoint mechanical grease pencil that's in good condition, since they're too hard to find.

I absolutely hate "peel-off" china markers, like the box of Sanford markers at Figure 12 above. I can buy mechanical grease pencil markers at the same price or less, and with them I can make the lead advance exactly as much as I want, whenever I want. My only use for "peel off" markers is to strip them and use the "hacked" leads as refills for some other marker.

I like the "clamp type" markers, because they tend to be very solidly built. They have fewer moving parts than some markers, and so they're usually super dependable. But advancing the lead takes a bit of time, and the amount of lead advanced isn't always easy to control, so they can be almost as frustrating as "peel-off" style markers. I keep the ones in this article more for their historic importance than their everyday utility.

The Tweeten markers are interesting special purpose markers. But the pencils are so thick as to be uncomfortable for me to hold and use.

I couldn't really figure out how the Kwik-Klik mechanism works, and it may well be a unique model of that marker. So I'm not going to try to use that one day to day.

The Redipoint marker and the Kohinoor markers and the Scripto markers are all "cousins". Each uses spiral grooves inside the barrel to guide the lead holder up and down, to advance and retract the lead. All have removable mechanisms, which makes it easy to refill with lead. But all markers of this type have an annoying weak point – the lead holder often binds up when the grooves inside the barrel get dirty, or when the lead gets old and hardens, and there's no practical way to lubricate those grooves so the lead holder moves easier/better/smoother. Any lubricant put into the barrel to lubricate those grooves would probably attract dirt and make a huge mess, even if the lubricant made the mechanism work more easily. In this group I like the Scripto models best, since they're ubiquitous and thus repair parts are plentiful. A noteworthy problem with these "cousins" is that the lead diameter is only .120". These "thinner line" markers, especially the common Scripto markers would be my second choice, and I have a good number of them. One of them is on my kitchen counter right now, but it's used far less than my first choice (see My Preference, below).

The Eberhard Faber and the Blaisdell "120" and the Wearever propel/repel markers which use .120" diameter leads work just great, and could easily be daily writers if I had more of them. Sadly, I only have one of each, and I'll be keeping them in a drawer, as collectibles.

The Maier's Sunbeam Bread markers are really tools. If you run a bread route or work in a warehouse, they're probably very useful. But they're pretty obstreperous as a marker to keep in one's pocket or on one's desk.

And of course the Worther is really just a "hacked" marker, and a "clamp style" marker at that. I like that it's 6-paneled so it doesn't roll off my desk, and I like to use it with the 7B lead from time to time. But if used every day with crayon leads, I really see no way to clean the minute shavings of crayon leads which would likely build up inside the barrel of that marker over time. An accumulation of those shavings might ruin the spring loaded "clamp" mechanism.

MY PREFERENCE: I vastly prefer a mechanical type grease pencil with thicker than .120" leads. So the Listo mechanical grease marker is my clear preference, with leads .156" in diameter. Listo's mechanical grease markers may have looked fairly similar from about 1947 or 1948 until 2020. But the internal lead advance mechanism parts have changed. What started out as a brass mechanism inside the length of the grease pencil, to advance and retract the lead, became a plastic mechanism over time, to better compete in the world marketplace (in plain words, to make it cheaper to produce and sell). The newer, lighter weight plastic mechanism models might be great for the guy at the meat market who keeps one clipped to his white apron, and uses it every five minutes for his 8 hour shift. He probably has a bunch of them in inventory, and if one dies he just throws it away and grabs another.

But I'm a kind of grease pencil conn-a-sewer. I like the old Listo grease pencils with the robust - literally indefatigable - brass lead advance mechanism. The favorite one I use on an almost daily basis is 4-3/4" long and a slim 5/16" in diameter, and looks like this: ▼Figure 56.



Part of the reason I like this Listo marker so much is that I'm a retired CPA. I live with the assistance of many lists. I prepare those lists with my PC in the 12 point Times Roman font, or with an Autopoint pencil, or with a gel pen. Many of my "to do" notes and lists are on the kitchen counter. I cross items off those lists with this early Listo mechanical grease pencil with the medium thick 0.156" grease pencil leads, and that's the perfect size to cross out the 12 point Times Roman font in one swipe.

Like virtually all Listo mechanical grease pencils, the shiny metal tip screws off to replace/refill the lead, and the lead refills are fairly cheap and widely available (12 packs of 6 leads, or 72 leads in total, plus 12 replacement metal "grip type" sleeves, for about \$11.00 if you shop hard).

The yellow Listo that I use almost daily is a "wounded warrior", not really a collectible. It's dirty, it's missing the pocket clip, it has numerous dents in the top of the barrel due to the now lost pocket clip, and it has a number of other minor dings, dents and discoloring. But it still works fine, and it may well last another hundred years.

Note 1: Use of this image is permitted under the "fair use" exception to the United States copyright laws, since presented here for purely educational purposes, and not for profit.

This is just a quick compilation, far from completely researched. I've principally based the above comments and pictures on the various markers and ephemera in my personal collection. I'd hope that posting this essay will elicit some additional insight and further evidence of these types of markers. If you have additional information, pictures or ephemera that you'd be willing share so it could be added to the appropriate place in these pages, please don't hesitate to contact me at jimstauffer@gmail.com. I'm always happy to provide proper attribution for material which expands this content. Error correction is also appreciated. Please note that all images, text and other content on these pages are copyrighted, and may not be reproduced in whole or in part without the express written permission of the author. Personal use of this content, however, is absolutely and cheerfully permitted. And you can freely make links to this web site from other web pages.

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