



[45 Year History](#) -- Made in USA --

U.S. Patent 10,661,596 - The invention relates to providing hand held engravers that can hold a graver closer to parallel to the work while at the same time raising the handle away from the work. The invention is also reversible allowing a graver to be held at a steep angle to the work.

Benefits of the new angled engravers, collets and extensions

Background of Patent 10,661,596, and Pending Patent:

The traditional hand engraving tool which has been used for banknote and deeper engraving has been in existence for centuries. It consists of a graver (also known as a tool point, tool tip or graver) inset into a mushroom shaped handle that is made to fit into the human hand. The engraving artist pushes the tool tip through the metal. Ideally for this manual engraver, the lower and closer to parallel the graver shank can be held to the work, the better. A help to manual push engraving of the past was the use of a bent graver shank.

A bent graver shank allowed the front portion of the graver shank to be held close to parallel to the surface and yet allowed for the handle to be up and away from the work surface which provided clearance for the operator's hand. In more recent times, carbide has been utilized for gravers rather than carbon steel gravers. Unfortunately, carbide shanks cannot be bent as steel can be.

Thus, there is a need for powered and manual engraving tools that can hold a graver shank at an angle from the tool's body, and allow the straight graver shank to be used closer to parallel to the surface being engraved. This provides the benefit of the past bent steel graver shanks, as well as giving raised clearance for the operator's hand on the handle. There is also a need for the opposite, that is, to have the graver shank held to a steep angle to the surface being engraved, for various work operations by the artist such as bulino, inside ring engraving and hard to access concave surfaces.

In more recent times power hand engravers have come in existence. The invention is an improvement for removable collets to be angled in order to hold the graver shank at an angle and thereby give the benefit of what the bent graver shanks of the past provided. It is also an improvement that the removable nose collets are reversible to allow the user of the tool to rotate the insert so that the angled graver shank will be held at a steep angle to the work for various operations such as bulino, inside ring engraving and hard to access concave surfaces.

The above photo illustrates a low angle of attack and a high angle of attack to the work surface with the angled engraver invention.



LINDSAY ENGRAVING & TOOLS

We take intellectual property seriously

Each of our angled gravers, angled collets and angled extensions are marked with the patent number and patent pending. This provides potential infringers constructive notice of our patent rights, which means that in a patent infringement lawsuit, damages can be awarded for infringement that took place before the lawsuit was filed or the infringer was given actual notice of the infringement, such as, a warning letter. In other words, the longer the infringement, the greater the damages an infringer can be assessed.

Potential infringers should also be aware that in cases of willful infringement, a court may increase the damages up to three times. A court may also order a permanent injunction. [Link - More information about intellectual property infringement.](#)

Infringers will typically argue that the invention was already known but this line of argument is very difficult to support. Quote from [An insight on the US Patent system](#) by Michael Artemis "Correspondingly, although someone may claim to have seen what they consider the same invention years ago, if the alleged prior invention was not documented or publicly available, it may not qualify as prior art with respect to the invention. When the Patent Office issues a patent, it is cloaked with a VERY powerful presumption of validity."

If you should see someone or a company copying the angled graver technology on the internet or social media, you may copy and post this notice and a link to [AngledGraver.com](#). Thank you for understanding.

**MUSHROOM™
ANGLEGRAVER™**
PATENT 10,661,596
& PATENT PENDING



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LINDSAY ENGRAVING & TOOLS

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Reversing Mushroom AngleGraver™

Our PalmGraver® can be configured to have a low angle of attack, or a high angle of attack to the work. See video to the left how to switch it back and forth by reversing. The tool hole in the nose is .133" in diameter. So 3/32" square graver shanks fit as well as 1/8" round, or any size that will fit in the .133" hole.

Mushroom AngleGraver
Includes black rubber handle and wrench, \$79 [Add to Cart](#)
(Does not include graver point)

LINDSAY ENGRAVING & TOOLS
ANGLEDGRAVER.COM



**REVERSING
ANGLEGRAVER**

**STRAIGHT
PALMGRAVER**

US. PAT. 1,0661,596 & PAT. PENDING

**Burl Handled Reversing
Mushroom AngleGraver™**
Includes wrench
Add to Cart \$269
(Does not include graver point)

**Burl Handled Straight
Mushroom PalmGraver** Includes
wrench
Add to Cart \$239
(Does not include graver point)

Benefits of high angle of attack:

- * Clearance and hand comfort
- * Bulino dots and dashes.
- * Extra heel clearance for less drag.
 - * Inside ring engraving.
- * Hard to otherwise access concave surfaces.
- * Improved viewing when using the microscope while stippling and while gold inlaying.

Benefits of low angle of attack:

- * Clearance and hand comfort
- * Line engraving, partially with manual push engraving.

AngleCollet™

AngleGraver™ - Angled PalmGraver® - Lindsay Eng...



Straight PalmGraver
Photo coming soon.

Straight Mushroom PalmGraver
Includes black rubber handle and wrench,

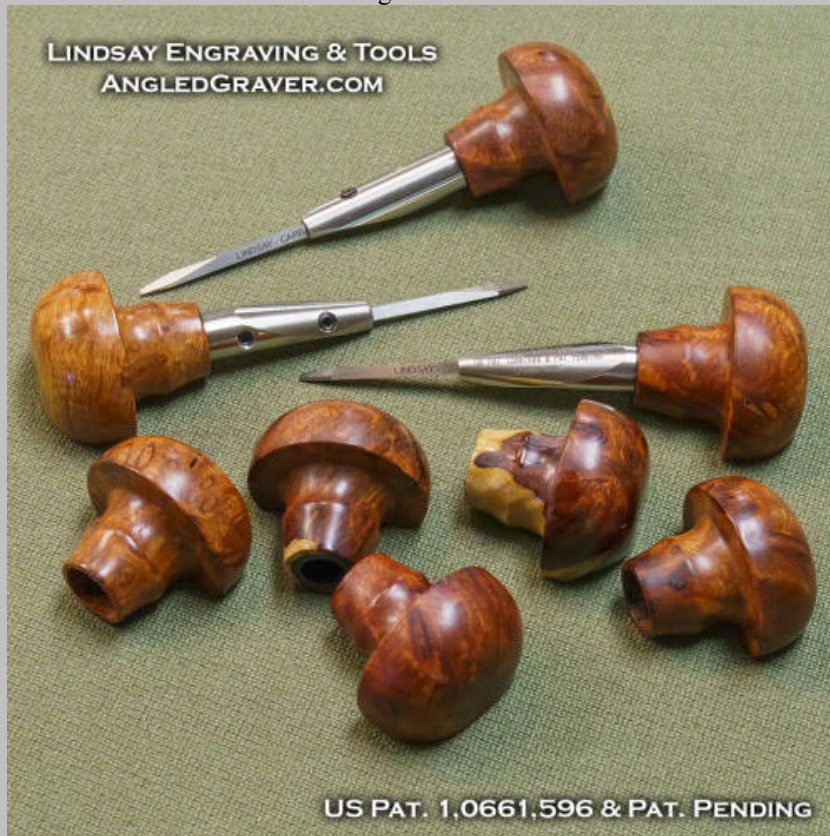
Add to Cart \$49

(Does not include graver point)

Burl wood handle for Mushroom AngleGraver

Use this to replace the rubber handle on a previously purchased Lindsay PalmGraver.

- These burl handles will fit either version:
- 1: Reversing Mushroom AngleGraver, and/or
 - 2: Straight PalmGraver

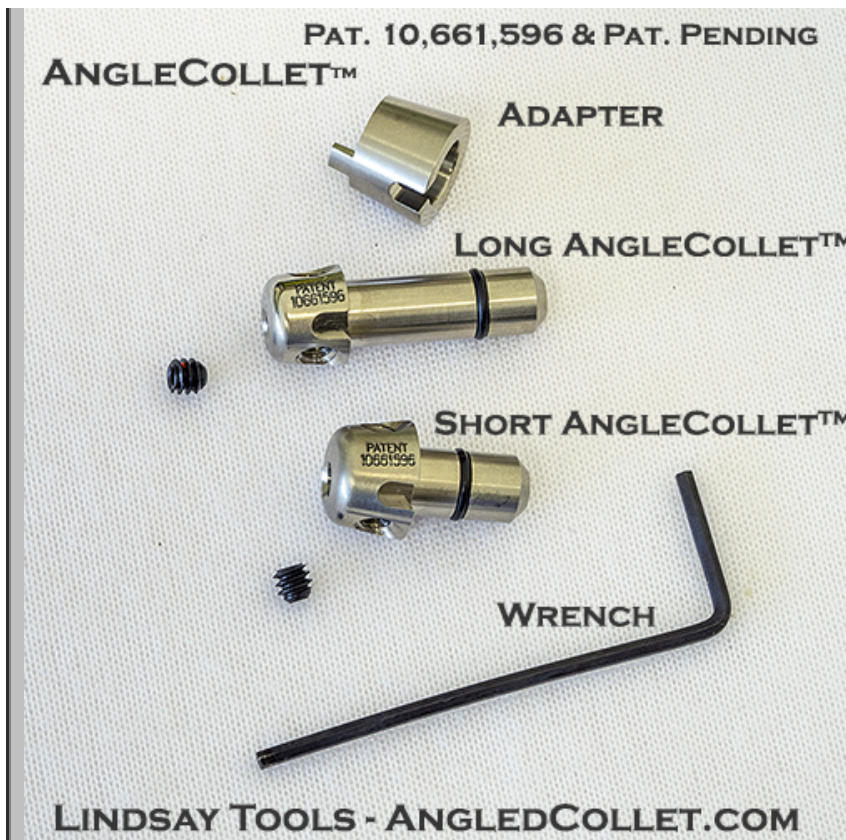


Burl Wood Handle for Mushroom AngleGraver™ and PalmGraver.

This is the wood handle only, no metal body.

Add to Cart \$199

This is the burl wood handle only. Use it to replace the rubber handle on a previously purchased Lindsay Mushroom AngleGraver or PalmGraver. Note: These fit manual push gravers that were sold in 2016 and newer. If there is any question send us a photo of your push graver and we can let you know if this burl handle will fit.



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nose. The adapter can be moved from one long collet to another long collet.

[Link - Sharpening Templates for high angle of attack points](#)

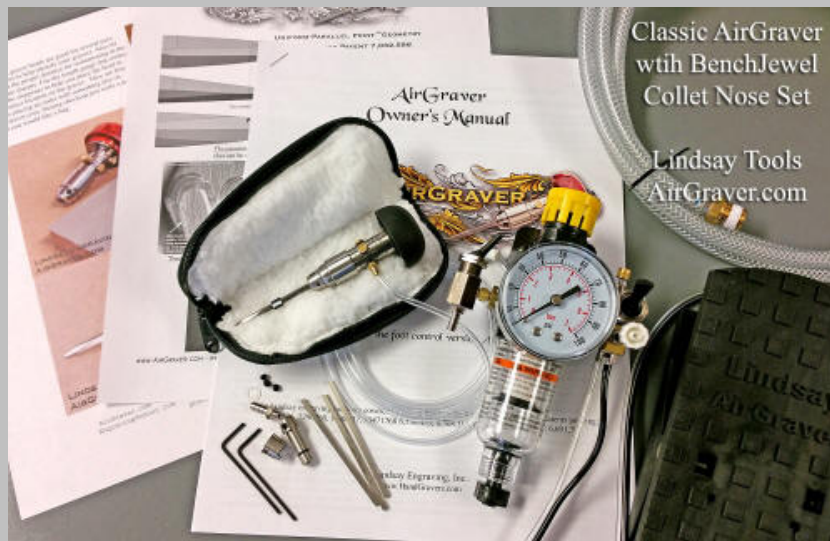
For straight collets visit [this page on the AirGraver.com site](#). Or for convenience here are "add to cart" buttons for short and long straight collets.

Two pack Long Straight Collet
\$27 (two pack)

[Add to Cart](#)

Two pack Short Straight Collet
\$26 (two pack)

[Add to Cart](#)



Mushroom AngleGraver™ Classic AirGraver engraving machine set with collet nose

Classic handpiece with collet nose, foot control regulator setup, includes stainless and tungsten pistons, one presharpener Carbalt and 3 HSS graver blanks, one short AngleCollet, one long AngleCollet, one short straight collet, one long straight collet, and one adapter.

\$1463

[Add to Cart](#)

To see the various AirGraver machine sets and help in choosing visit the page link

[AirGraver.com/help_and_options.htm](#)

Reversing AngleCollet™ Extensions

These angled QC extensions fit the standard nose Classic handpiece (foot control Classic) and the PalmControl Classic). Heat treated and full hardened stainless. They also fit other brands engravers with

REVERSING ANGLECOLLET

PAT. 10,661,596 & PENDING PAT.



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The handpieces picture in the photo are the BenchJewel at the top and a collet nosed burl handle PalmControl. The bottom two handpieces in the photo are foot controlled collet nosed Classics with AngleCollet that is rotated opposite to illustrate a high angle of attack and low angle of attack. Two adapters are also in the photo which are used on long collets.

Similar to the reversing manual AngleGraver these collets are angled and are reversible. With the AngleCollet the handle does not need to be reversed to switch from low angle to high angle of attack. In order to change between the two modes pull out the AngleCollet, rotate and reinsert it.

Reversing AngleCollets are available with and without offset.

Reversing AngleCollet™ - Pat. 10,661,596 & PENDING PAT.



PalmGraver™ Reversing AngleCollet™

Short Reversing AngleCollet™
\$24 each

[Add to Cart](#)

Long Reversing AngleCollet™
\$26 each

[Add to Cart](#)

We do not have other brand engravers to test, but jewelers have reported that our long collets fit other brand engravers. However we do not guarantee they will fit other brand engravers.

Adapter for Long Collets
\$17.50 each

[Add to Cart](#)

The adapter is for use with long collets in the BenchJewel Graver, Classic and Classic PalmControl that have a collet

ANGLECOLLET™

PATENT 10,661,596 & PATENT PENDING

REVERSING ANGLED
QC EXTENSION



ANGLECOLLET.COM
STEVE LINDSAY ENGRAVING & TOOLS

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a .133" diameter or slightly larger tool hole.

AngleCollet™ QC Reversing
Extension

\$26.50 Each

[Add to Cart](#)

AngleCollet™ QC Reversing
Extension

\$50 - 2 Pack

[Add to Cart](#)

AngleCollet™ QC Reversing
Extension

\$120 - 5 Pack

[Add to Cart](#)

[Link - Sharpening Templates for high angle of attack points](#)

PALMCONTROL AIRGRAVER



ANGLECOLLET
EXTENSION

LINDSAY TOOLS - AIRGRAVER.COM

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Reversing Offset AngleCollet™

Reversing Offset AngleCollet™

Standard Offset AngleCollet - Fits
standard nosed Classics,
PalmControls and Artisans

[Add to Cart](#)

Short Offset AngleCollet

[Add to Cart](#)

Long Offset AngleCollet

[Add to Cart](#)

Adapter for Long Collets

\$17.50 each

[Add to Cart](#)

REVERSING ANGLECOLLET

PAT. 10,661,596 & PENDING PAT.



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Straight Extensions



For straight extensions visit [this page on the AirGraver.com site](#). Or for convenience here are "add to cart" buttons for the Straight QC extensions.

Two pack Straight QC Extensions
\$19.95

[Add to Cart](#)

Five Pack Straight QC
5 pack \$47.50

[Add to Cart](#)

The clearance created with the angled graver steep is great for hard to access concave surfaces. For example here is the engraving in the bottom of a spoon by [Marius Mellebye](#). A place that is notoriously difficult area to get to. The AngledGraver together with the "Extra High Angle" ground point is able to get in to engrave it.

ANGLEGRAVER™
PATENT 10,661,596 & PATENT PENDING

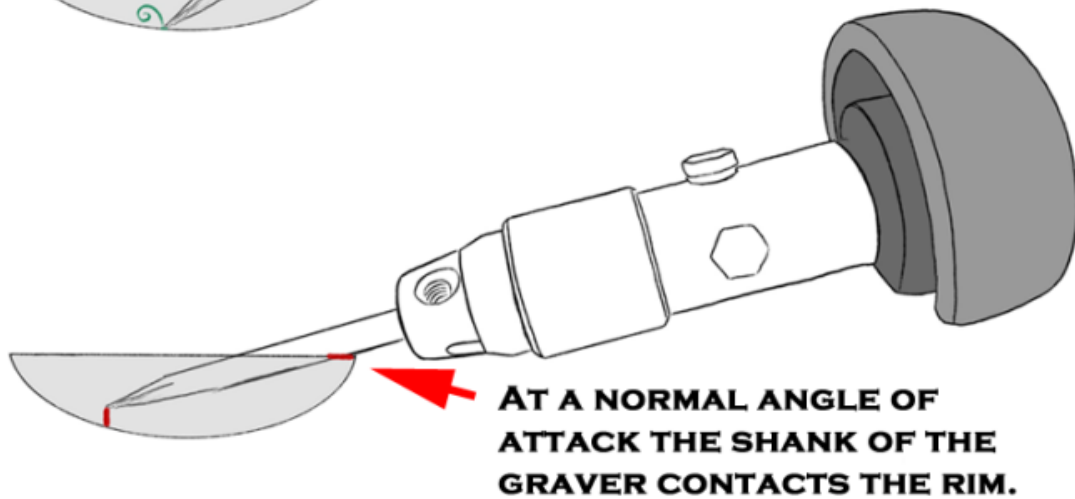
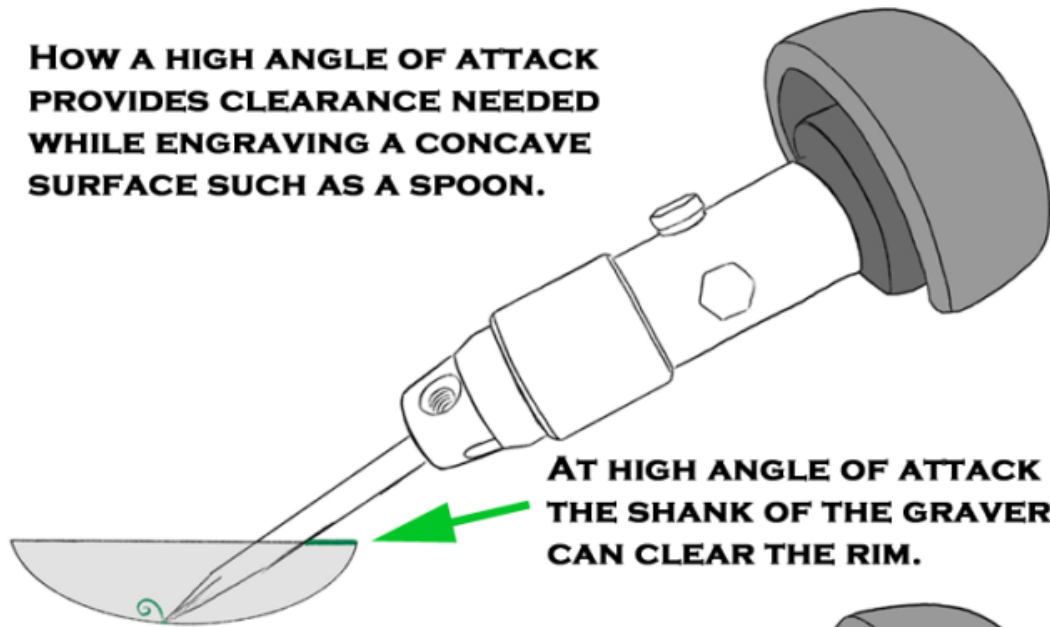


THE CLEARANCE CREATED WITH THE ANGLED GRAVER IS GREAT FOR HARD TO ACCESS CONCAVE SURFACES. FOR EXAMPLE ENGRAVING ARTIST MARIUS MELLEBYE ENGRAVED THIS SPOON USING ONE OF THE ANGLED GRAVER TOGETHER WITH THE NEW "HIGH ANGLE" GROUND POINT SHARPENING TEMPLATE.

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HOW A HIGH ANGLE OF ATTACK PROVIDES CLEARANCE NEEDED WHILE ENGRAVING A CONCAVE SURFACE SUCH AS A SPOON.



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Sharpening templates for points that work well with a high angle of attack.

Two for high angle attack are the 116 Universal Point and the Flat/Knife template. They are made in three heights.

Extra "High Angle"
Standard "High Angle"
Lower "High Angle"

Thanks to Engraving Artist [Marius Mellebye](#) who drew the image on the left to help visualize the height differences of three templates for an example.

ANGLEGRAVER™ ANGLEDGRAVER.COM

PAT. 10,661,596 & PENDING PAT.

**HIGH ANGLE
SHARPENING TEMPLATES**

**EXTRA
"HIGH ANGLE"**

**STANDARD
"HIGH ANGLE"**

**LOWER
"HIGH ANGLE"**

**DRAWING BY
MARIUS MELLEBYE**

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**Universal 116 Degree V Uniform Parallel Point
Templates**

Universal 116
Extra "High Angle"
\$27 [Add to Cart](#)

Universal 116
Standard "High Angle"
\$27 [Add to Cart](#)

Universal 116
Lower "High Angle"
\$27 [Add to Cart](#)

Flat/Knife Templates

Flat/Knife
Extra "High Angle"
\$26 [Add to Cart](#)

Flat/Knife
Standard "High Angle"
\$26 [Add to Cart](#)

Flat/Knife
Lower "High Angle"
\$26 [Add to Cart](#)

**Sharpening templates for points that
work well with a low angle of attack,**



as well at a high angle of attack for bulino dots and dashes.

Phil Coggan - bulino template \$21

[Add to Cart](#)

[Information about this point on the engraving forum.](#)

Dario Cortini - bulino template \$21

[Add to Cart](#)

Similar to Phil Coggan's point but with steeper facets. [Information about this point on the engraving forum.](#)

Most of the V templates that have a uniform parallel heel can be utilized for a bulino template by simply not placing the heel on it which is done with V part of the large template. [Link to template page](#) So skip that step while sharpening and it will make point dig right in for making a dot or dash. Information about bulino can be found at [EngravingSchool.com](#).

[About - Contact](#)