

Counterfeit Detection



A REPRINT FROM *THE NUMISMATIST*

Volume II

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Strong interest in *Counterfeit Detection: A Reprint from The Numismatist*, which originally was published in 1983, demonstrated the need for an inexpensive, convenient reference about counterfeit detection. Thus, the American Numismatic Association Certification Service (ANACS) presents Volume II of *Counterfeit Detection: A Reprint from The Numismatist* in an ongoing effort to inform and educate the numismatic community.

Articles in this volume were published in *The Numismatist*, official journal of the American Numismatic Association, between January 1983 and May 1988. A few outdated facts have been eliminated, and the text has been edited for clarity.

Counterfeit Detection: A Reprint from The Numismatist is not intended to be a complete reference on the subject. Rather, it should be used as a guide to help identify coins, both genuine and counterfeit, that are commonly encountered by collectors. Readers having additional information about suspected counterfeit or altered coins are encouraged to contact the ANA Certification Service.

On the cover: An altered 1909-S VDB cent bears an added "S" mintmark. A photomicrograph of a genuine 1909-S VDB cent focuses on the initials of designer Victor David Brenner.

Table of Contents

Counterfeit and Altered Coins

Distinguishing Replicas from Counterfeits	1
New Methods of Artificial Enhancement Downgrade Coins	2
"Sparking" Counterfeits	5

Doubling

Doubled Die or Machine Doubling?	7
Doubling on U.S. Coins	9

Overdates

U.S. Gold Series Overdates	12
----------------------------------	----

Coinage Specifications	13
-------------------------------------	----

Authentication

X-Ray Analysis Reveals Previously Unsuspected Pattern	16
Determining Metal Content Often a Difficult but Necessary Part of Authentication	17

Cents

Counterfeit Large Cent Remains Highly Deceptive	19
Counterfeit 1805/5 Cent	20
Diagnostics of Spurious 1877 Cent Typical of Counterfeit Coins	21
So-Called "1869 over 68" Cent Variety a Misnomer	22
1909-S Cent Another in the Bay Area Counterfeit Series	23
Matte Proof Lincoln Cents, 1909-1917	25
1909-S and 1909-S VDB Lincoln Cents: New Counterfeits Discovered!	37
Counterfeit 1909-S VDB Cent Verified by Appearance of Second Specimen	39
"Revised" Counterfeit 1909-S VDB Cent	41
Characteristics of Genuine 1909-S VDB Cents	42
Counterfeit 1914-D Cent Still Turns Up	45
Update on 1922 "No D" Cents	46
Counterfeit 1972 Doubled-Die Obverse Cent	49
Silver-Plated Cents Surface	50
1987-D Doubled-Die Cent Surfaces in Midwest	51

Three Cents

Counterfeit 1864 Silver Three-Cent Pieces	54
---	----

Five Cents

More High-Quality Alterations Surface	52
---	----

Table of Contents

Dimes

Diagnostics of Genuine 1982 "No Mintmark" Dimes	56
---	----

Quarters

Counterfeit 1934 Quarter Displays Classic Diagnostics	58
Counterfeit 1932 Quarter Employs Reverse of Counterfeit	59
1934 Specimen	

Half Dollars

Counterfeit 1796 Half Dollar Discovered	61
---	----

Commemorative Coins

Numerous Flaws Mark Counterfeit 1937 Antietam Commemorative ..	64
New Counterfeit Commemoratives	66
Building a Case: Counterfeit or Genuine?	69

Silver Dollars

1895 Proof Dollar Die Study	71
1896-O \$1 Cast Counterfeit	73
Altered 1904-S Dollar Displays Uncommon Technique	74

U.S. Gold

Characteristics of Genuine \$1 Gold	75
Characteristics of Genuine \$2½ Gold	78
Characteristics of Genuine 1911-D \$2½ Gold Pieces	83
Diagnostics of Genuine \$3 Gold Piece	84
Counterfeit 1799 \$10 Surfaces	87
1906-D Counterfeit Eagle Discovered	88
1933 \$10 Pieces—Genuine and Counterfeit	90
Signature Identifies "Omega" Counterfeit	91
Gold Counterfeit Surfaces	94
Counterfeit 1926 \$20 Gold Piece	95

Foreign Coins

Typical Diagnostics Betray Counterfeit 20 Mark	97
Italian Counterfeits Examined	98
Counterfeit Italian 5 Lire Examined	101
Counterfeit Mexican Bullion Not Particularly Deceptive	102
Unnatural Luster Typifies Counterfeit Vatican City 100 Lire	105

Distinguishing Replicas from Counterfeits

Unlike counterfeit coins, coin replicas are not intended to deceive. A replica is a copy of a coin that is unique or scarce in number, whereas counterfeits most often are made to resemble genuine coins of a particular date, of which numerous specimens exist.

Because a replica is not meant to fool the unwary collector, less care and attention to detail are used in its manufacture. Consequently, it is of poorer quality than the genuine item, making the task of identifying it as a replica that much easier.



Replica. 1737 Higley copper.



Although not in strict accordance with the dictates of the Hobby Protection Act of 1973, which states that a replica must carry the word "copy" on the obverse or reverse only, this replica is identified as such by the word "copy" stamped on its edge.

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Replica. Massachusetts 1652 Pine Tree shilling.

Replicas generally are cast (as opposed to genuine U.S. Mint products, which are struck), leaving a seam around the edge of the coin where the casting molds were joined together. In addition, they frequently are made of a base metal, usually lead. Sometimes the base metal is plated with another metal, so that the replica more closely resembles the original coin.

An easy way to determine if a piece is a replica is to give it the "ring test." The procedure is simple: balance the piece on the tip of your finger and tap its edge lightly with a pencil or similar object that won't damage the specimen. If the piece is a replica cast in a base metal, it will produce a short, dull, almost hollow sound. A modern struck coin will emit a long, high-pitched ring. If a suspect piece has both an edge seam and a dull, hollow ring, you can be almost assured it is a replica.

Since the introduction of the Hobby Protection Act in 1973, all replicas are required to be identified as such by the word "copy" stamped on either the obverse or



Replica. Massachusetts 1776 Pine Tree pattern copper.



Replica. 1783 Nova Constellatio.



Replica. 1855 Blake and Company \$20.

reverse. Most replicas produced prior to 1973 carry no identifying marks; however, some bear the letters "C" or "R" or the word "copy" on the edge or on one side. It is felt that most of these pieces were stamped sometime after their manufacture, although the marks on some specimens obviously were incorporated in the design at the time of production.

The most common replicas examined by ANACS are copies of Early American and territorial coins, among them the 1776 Continental dollar, 1855 Blake and

Company \$20, New Hampshire 1776 William Moulton copper piece, Massachusetts 1776 Pine Tree pattern copper, 1785 Bar cent, 1787 Brasher doubloon, Massachusetts 1652 Pine Tree shilling, 1737 Higley copper and 1783 Nova Constellatio.

ANACS' fee for confirming that a piece is a replica is \$11 for members (\$10 processing charge plus \$1 for postage and insurance) and \$13.50 for nonmembers (\$12.50 processing, \$1 postage and insurance). Certificates are not issued for replicas.—MS

Counterfeit and Altered Coins

New Methods of Artificial Enhancement Downgrade Coins

In recent weeks, the ANA Certification Service has encountered a number of coins intentionally damaged by camouflaging bagmarks or other imperfections in attempts to enhance eye appeal. Methods of this type are viewed by ANACS as deceptive and undesirable, and fall under the category of artificial enhancement. As new means of artificially enhancing coins are perfected, coins of this nature no doubt will surface repeatedly.

Described below are some of the methods currently employed and how they can affect ANACS grading.

Surface pitting. In this process, numerous minute pits are tapped into the surface of the coin. Usually found on the coin's devices, these pits are barely noticeable at first glance. The pits are strategically located to camouflage bagmarks or breaks in natural frosting that often are

found on Morgan dollars, particularly on Liberty's eyebrow, cheek and neck. Such damage also has been seen on \$20 gold pieces, with numerous pits appearing on Liberty's knee (in an attempt to minimize a gash) or on portions of the eagle (to conceal bagmarks).

Filing. To camouflage gashes or bagmarks on devices, areas are sometimes filed. At present, ANACS has seen this technique used on \$20 gold pieces only. Filing also is used to divert attention from large dings on the rim or edge of a coin, and occasionally to minimize natural planchet flaws. In some cases, the rim is polished after filing to hide the evidence, although this frequently leaves behind an unnatural luster.

Fillers. To conceal bagmarks usually found on Liberty's cheek, eyebrow or knee and on the eagle's breast or wing, the sur-

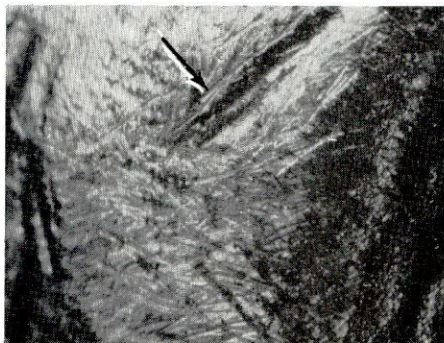
faces are rubbed with a pliable filler. Very similar to household putty, the filler removes the shine associated with bagmarks, resulting in a duller, less obvious appearance as well as filling the cavity of the bagmark.

These three methods of concealment have been seen on copper, silver and gold coins. Sometimes they are obvious and easy to detect, but at other times can go unseen if the coin is carelessly examined.

Regardless of the degree of workmanship, ANACS will assign a lower grade to



1879 \$1: Surface pitting evident in cheek area.



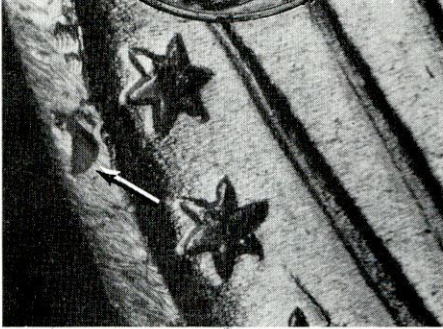
1923-D \$20: Liberty's knee filed to hide gash.



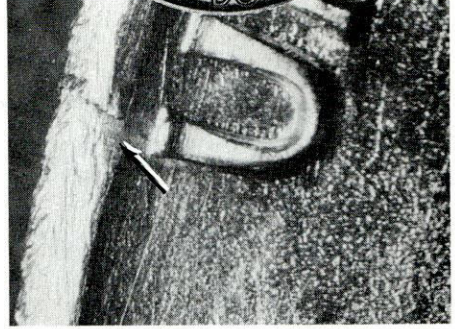
1879 \$1: Close-up of eye area where pits were added to conceal bagmarks.



1924 \$20: Surface pitting added to eagle's wing to distract from surface abrasions.



1924 \$20: Rim filed and polished to camouflage nick.



1921 Half Dollar—Alabama Commemorative: Rim filed to conceal planchet flaw.

a coin that has been selectively damaged in an attempt to hide imperfections. For example, the artificially enhanced coins viewed by ANACS were uncirculated, with full natural luster and some marks. If the coins had been left in their natural state, they would have graded MS-63/63 or perhaps even MS-65/65. However, because they sustained additional damage as a result of deliberate pitting, filing or use

of filler, the coins were downgraded.

Each side of a coin is graded separately, thus if only the obverse is damaged, it alone will be downgraded. Although the extent of grade reduction depends on the severity of intentional damage, an uncirculated coin is still considered as such and will grade no lower than MS-60/60. Damage is described on the ANACS certificate, such as "rim filed, knee tooled."

“Sparking” Counterfeits

ANACS recently had the opportunity to view a very interesting group of counterfeit coins, namely an 1858 Flying Eagle cent with large letters, Indian Head cents dated 1861, 1863, 1864 and 1877, and an 1866 Liberty Seated dime. This group of counterfeits shares the distinction of having been produced by the same manufacturing method—an Electrical Discharge Machine (EDM).

The EDM technique, also referred to as the Spark Erosion method, produces counterfeit coins by passing a series of electrical discharges or sparks over and through the surface of a model coin. These sparks jump a small gap and etch the design onto the surface of a blank piece of steel, which then becomes the counterfeiter’s die. This process produces dies with granular surfaces resulting from the erratic movement of the spark as it bridges the gap between the model coin and the steel blank. The fields of the counterfeit dies are usually polished smooth, creating a visible contrast with the granular texture of the design areas.

The counterfeit 1858 Flying Eagle cent pictured here exhibits the granular texture typical of the EDM process. The fields are smooth, but the main devices and lettering are characteristically rough and lacking in detail. The most obvious “give-away,” however, on this example and most other EDM counterfeits, is the edge. Unlike a normally struck coin, the edges of EDM counterfeits are very sharp, squared-off and proof-like.

The EDM-produced copper-nickel Indian cents examined by ANACS were dated 1861, 1863 and 1864. Similar in appearance to the Flying Eagle cent, these too exhibited granular devices with smooth, almost proof-like fields and edged. Collectors not trained to recognize the diagnostic characteristics of EDM-produced counterfeits may find the eye appeal of these coins very pleasing because the contrasting devices and fields produce a frosty, almost proof-like appearance. One might even assume that these coins had been struck from rusted dies or that they



Contrasting devices and fields of the 1858-LL EDM counterfeit cent.

were simply lightly corroded.

The 1877 Indian cent was by far the crudest of the EDM counterfeits in this group. Ragged, partial lettering and missing border details as well as jagged, raised lines of metal surrounding the portrait of a pock-marked Miss Liberty are obvious flaws. Add to this the proof-like edge typically found on EDM counterfeits and this coin’s authenticity deserves to be questioned.

The 1866 Liberty Seated dime is the most interesting and puzzling of this group of EDM-produced counterfeits. The counterfeiter, either lacking sound numismatic knowledge or perhaps attempting to produce a great rarity, combined the



1877 EDM counterfeit cent.

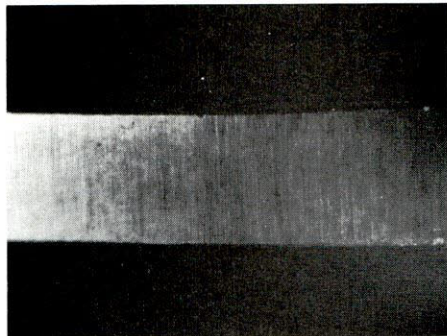


More granular characteristics of the EDM counterfeit on this 1863 cent.

obverse design of the 1860-1891 dime with the reverse design of the 1837-1860 dime. The result of this combination is a variety that was never used on genuine dimes produced in 1866. This dime also exhibits typically granular devices and smooth surfaces—the trademark of the EDM counterfeiting method.

The examples illustrated in this article are but a few of the many different EDM-produced counterfeits in existence. ANACS has seen examples of large cents, two cents, Bust dimes and Bust quarters produced by the EDM method. Additionally, the ANACS staff has seen EDM counterfeits plated to pass as trial strikes of patterns, and EDM counterfeits struck to resemble minting errors such as off-center and multi-struck coins. Other examples surely exist.

Coins suspected of being EDM-produced counterfeits should be examined carefully. If you question your coin's



The typical sharp, squared-off, proof-like edge is a real "giveaway" of EDM counterfeits.



Rough, granular letters and devices on an EDM counterfeit 1866 dime.

authenticity, please refer to the ANACS Request for Certification form and price schedule found in the back pages of this issue of *The Numismatist*.

Doubled Die or Machine Doubling?

People occasionally express confusion when trying to determine if doubling on a coin is the result of a doubled die or simply machine doubling (also known as ejection doubling or strike doubling). For some, this determination is particularly important, as a coin struck by a doubled die can be more valuable than a coin produced from regular dies, whereas the value of a coin displaying machine doubling remains basically unchanged.

Machine doubling, the more common cause of doubled images, is no more than a mechanical error. The doubling is not on the die itself, but rather is caused when the coin is struck. Most often, the die has some "give" or excess movement because of wear in the moving parts of the press. As the die strikes the planchet, this "give" allows the die some sideways movement during or immediately after impact.

The main characteristic of machine doubling is a flat, shelf-like appearance. Another good clue is doubling on both the mintmark and date. After the hubbing process is completed, the mintmark is punched into the die by hand. Therefore, if the doubling of the date and mintmark is identical, the possibility is highly remote that it was caused by anything other than machine doubling.

In contrast, a doubled die is produced during the hubbing process (the act of forc-



1881-S Morgan dollar: Machine doubling on mintmark. Excess machine wear allows die to shift sideways during or immediately after impact.



1934 quarter: Doubled die obverse. Doubled motto was caused during the hubbing process and is duplicated on every planchet struck with this die.



1858 Flying Eagle cent: Machine doubling on date caused at time of striking. Note flat, shelf-like appearance.

ing a hub into a die). The impression on a die is made by placing a hub into a hydraulic press opposite a blank steel bar. Tremendous pressure is then exerted, pushing the hub into the face of the bar and leaving its impression. This process is repeated several times before a satisfactory impression is achieved.

Between hubbings, the die is removed



1969-S cent: Unusual occurrence of both doubled die and machine doubling. Date was doubled during the hubbing process and exhibits a raised, rounded effect. Mint-mark was doubled during planchet striking and has a flat, shelf-like appearance.

from the press and annealed, then returned to the hubbing press for the next impression. It is at this point that doubled die errors can occur. If the die is not aligned perfectly with the hub, the next impression will not line up exactly with the previous impression, resulting in a die with a doubled image. In turn, this impression is duplicated on every planchet struck with the doubled die.

This type of doubling exhibits a raised and rounded effect, as opposed to shelf-like machine doubling. True doubled dies also show distinct notches where numbers and serifs of letters are doubled. Various



1939 five cents: Doubled die reverse. Letters display a raised, rounded effect and distinct notches on serifs.

articles and books have been written about minting errors and are recommended reading for those who would like to learn more about them. Many such references are available to members through the ANA library, among them *Modern Mint Mistakes* (fifth edition) by Philip Steiner and Michael Zimpfer; *The Lincoln Cent Doubled Die* by John A. Wexler; and *Official Guide to Mint Errors and Varieties* (third edition) by Alan Herbert.

Doubling on U.S. Coins

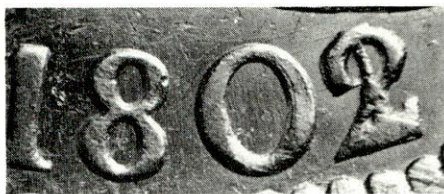
In the course of a normal working day, the ANACS staff views dozens of coins that exhibit some form of doubling. The appearance of doubling on a finished coin is caused by any of the following: doubled dies, strike doubling, repunched dates and mintmarks and machine doubling. "Overdates" and "overmintmarks," while not technically "doubling," also fall into this category.

The process by which dies are manufactured leads to the doubled die. A die is created by impressing a cylinder of die steel with a hub; two or more blows from the hub are required to properly bring up the fine detail. Before each impression is made, however, the die steel must be heated to soften the die and prevent shattering. If the die is not replaced in the exact position in the hubbing press, or if a different hub is used, the result is a doubled die.

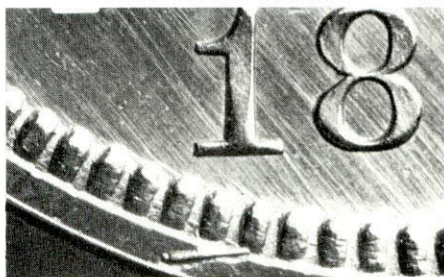
Repunched dates and mintmarks are the result of the "human factor" in die preparation. Until the early 1900s, all or part of the date was hand-punched into each individual die. During James B. Longacre's tenure at the U.S. Mint (1844-1869), double, triple and even quadruple dates are known to have been struck. In addition, date digits found their way into the denticles, Liberty's hair and the base of Liberty's bust. During this period, a "normal" date on a coin was almost an exception rather than the rule.

Whereas hand-punched dates ceased in the early 1900s, mintmarks have always been hand-punched into the dies at the Philadelphia Mint. The punch must be struck several times into the die to properly "seat" the mintmark. If the punch shifts between blows, a doubled mintmark results. There are examples, such as the 1916 Large D over Small D Barber quarter, where two punches with different styles were used.

Human error and Mint economy both come into play when discussing overdates and overmintmarks. Eighteenth and nineteenth century U.S. overdates usually occurred when one or more dies were left



1802/1 \$5; Hand-punched Overdate.



1850 Quarter: Base of extra 1 in denticles below date. The heavy die polish around the date was probably an attempt to polish away the blunder.



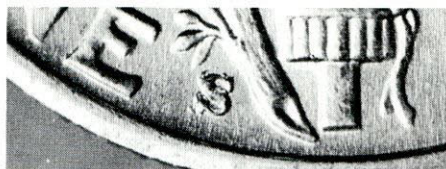
1856-O Half Dollar; Repunched Date: This date was punched into the die with a four-digit gang punch (all four digits were on the same punch). The engraver's first attempt was obviously tilted, so he repunched the date to align it correctly.



1864-L Cent; Repunched Date, also punched into the die with a four-digit gang punch.



1883 Five Cents; Machine Doubling at date.



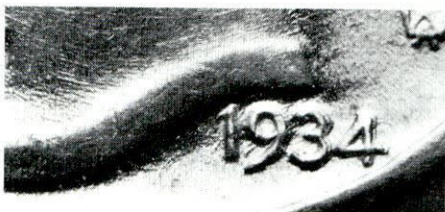
1943-S Dime; Repunched Mintmark.



1916-D Quarter; Large D over Small D.



1944-D/S Cent; Overmintmark.



1934-D Dime; Machine Doubling at date.



1938-D/S Five Cents; Overmintmark: The "D" was triple-punched over the "S," possibly in an attempt to hide the original "S" mintmark.



1942/41 Dime; Hubbing Overdate.

over at the end of the year. These dies were reworked and used in the production of the following year's coinage. As a general rule, little or no effort was made to disguise the underdate, thus, the overdates are normally quite easy to identify.

Modern U.S. overdates also result from "end of the year" dies. During the last few months of each year the Mint produces dies for both the present and upcoming year, thus preventing a large inventory of obsolete dies at the end of the year and ensuring a smooth work flow. In 1942, for example, this dual production resulted in two ten-cent dies first being impressed with a 1941 dated hub followed by a 1942 dated hub. This mistake also occurred in several other years: 1909/8 \$20, 1918/7-D 5c, 1918/7-S 25c, 1942/41 10c, 1942/41-D 10c and 1943/42-P 5c. All are apparently production errors rather than intentional attempts to salvage obsolete dies.

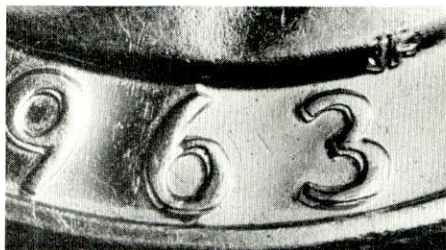
Examples of overmintmarks resulting from Mint economy are the 1900-O/CC Morgan dollar, the 1938-D/S Buffalo nickel, and the 1955-D/S Jefferson nickel. No 1900-CC dollars, 1938-S Buffalo nickels, or 1955-S Jefferson nickels were minted. The Carson City Mint was closed by 1900, 1938 saw the discontinuation of the Buffalo nickel series, and in 1955 the San Francisco Mint was in the process of closing. In each case, the Mint was faced with the choice of reworking these dies or discarding them. Other U.S. coins with overstruck mintmarks were probably



1963 Proof Quarter; Strike Doubling at motto.



1969-S Cent; Doubled-Die Obverse: This coin exhibits two forms of doubling, machine doubling and a doubled die. Since the mintmark is punched into a completed die, it will not show hub doubling. Note the difference between the machine doubling on the "S," which is flat and shelf-like, and the hub doubling on the date, which is separated and distinct.



1963 Proof Quarter; Strike Doubling at date.



1969-S Cent; Doubled-Die Obverse: Doubling on the motto.

engraver errors. Examples are the 1944-D/S Lincoln cent and the 1954-S/D Jefferson nickel.

Each of the preceding examples of overstruck mintmarks occurred when the dies for these pieces were manufactured. Because of this, any of the above characteristics can be found duplicated exactly on each coin struck from a particular die. The other two forms of doubling, however, strike and machine doubling, are the result of the coinage process itself. When a coin is struck twice and shifts between the two strikes, strike doubling occurs. This can also be caused by one of the dies shifting slightly between strikes. In this case only one side of the coin will show

doubling. Strike doubling is most common with modern Proof coins, which are always struck twice.

Machine doubling is *extremely common* and is caused by loose or worn parts in the coining press. During the strike, defective machine parts allow the dies a minute amount of "bounce," which results in doubling that is flat and shelf-like. Machine doubling can be distinguished from doubled dies or repunched dates by the following:

- 1) Machine doubling looks like a flat "step" between the field and the raised device. Doubled dies and repunched dates show separation between the images.
- 2) Machine doubling affects other raised devices on the coin. In every instance this doubling will follow the raised devices, resulting in a "shadow."
- 3) Machine doubling will not repeat exactly from coin to coin. Two coins struck one after the other may show similar doubling, but will not be identical.

The coins shown here are just a small sampling of the enormous number of doubled dies, repunched dates, overstruck mintmarks, and other varieties in the U.S. series. Many others still await discovery.

U.S. Gold Series Overdates

In a continuing effort to describe different varieties of United States coinage, ANACS presents the following discussion of several uncommon overdates in the gold series.

An overdate appeared on the \$2½ Liberty gold series in 1862, an era of minting history during which dates were punched into working dies by hand. In this case the number "2" was superimposed over the last digit of an 1861-dated die, resulting in an 1862/1 overdate.

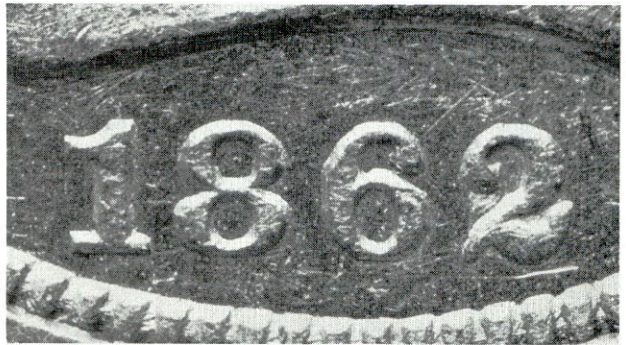
In 1881 a similar situation occurred in the \$5 gold series, wherein the entire date of an 1880 die was repunched with the date 1881. All the digits clearly show repunching, with the last digit exhibiting

the overdate.

Twenty years later the \$5 gold series exhibited yet another overdate—the 1901/00-S. Intended for use at the San Francisco Mint, the die originally was dated 1900; the last two digits of the date were repunched with "01."

These three overdated pieces resulted from physical alteration of the dies. However, the 1909/8 \$20 gold piece evolved from a different process: a working die created from a hub dated 1908 was impressed with another hub dated 1909. The reason for this procedure still is not fully understood, but the overdated die most likely was produced at the end of the year, at which time the Mint made dies for both the current and upcoming year. Bearing this in mind, one can see how a die dated 1908 could be impressed with a 1909-dated hub.

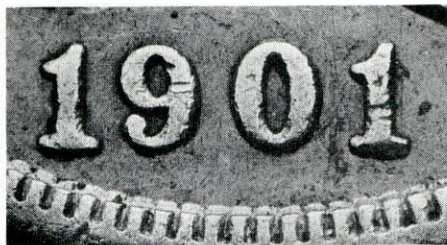
The 1909/8 \$20 gold piece is relatively



1862/1 \$2½: Overdate shows a trace of the numeral 1 under the last digit.



1881/1880 \$5: The date 1881 was repunched on an 1880-dated die. Note traces of a 0 under the last digit.



1901/00-S \$5: 01 was repunched over 00 on a 1900-dated die. Note traces of a 0 under the last digit.



1909/8 \$20: A 1908-dated die was impressed with a hub dated 1909.

common and can be acquired rather easily. However, the same is not true for the other overdates discussed in this article. Our knowledge of overdates in the gold series is limited, as more research has

been devoted to United States silver, copper and cupronickel series. So that the history of gold series overdates might be better understood, ANACS encourages collectors to report new findings.

Coinage Specifications

The following table of the specifications of U.S. coins gives the legal or actual weights, weight tolerances, diameters, compositions and specific gravities of regular-issue U.S. coins, and the dates in which the coins were issued to those standards. In most cases the gram weights are only the approximate equivalents of the legal weights expressed in grains. The exceptions are the post-1873 silver which was legally specified in grams and post-1983 copper-nickel and gold which was officially quoted by the U.S. Mint in

grams for use in this report. The silver in the pre-1873 gold was required by law, but the actual percentages used are unknown and are presumed to be very small.

ANACS would like to acknowledge *Coin World* and the U.S. Mint for their assistance in compiling this table. Any information regarding officially published information about any of the "unofficial" data shown in this chart would be appreciated. In almost every case this unofficial data was obtained directly from coins in the very best condition available.

COIN/ DATES OF ISSUE	GRAMS WGT.	TOL.	GRAINS WGT.	TOL.	DIAMETER (mm)	COMPOSITION	SPECIFIC GRAVITY
HALF CENT							
1793-1795	6.739		104.000		23.50*	Pure copper	8.92
1795-1836	5.443		84.000		23.50*	Pure copper	8.92
1840-1857	5.443	0.227	84.000	3.50	23.50*	Pure copper	8.92
LARGE CENT							
1793-1795	13.478		208.000		28.50*	Pure copper	8.92
1795-1837	10.886		168.000		28.50*	Pure copper	8.92
1837-1857	10.886	0.454	168.000	7.00	28.50*	Pure copper	8.92
SMALL CENT							
1856-1864	4.666	0.259	72.000	4.00	19.30*	88 Cu, 12 Ni	8.92
1864-1873	3.110	0.259	48.000	4.00	19.05	95 Cu, 5 Zn & Sn	8.84
1873-1942	3.110	0.130	48.000	2.00	19.05	95 Cu, 5 Zn & Sn	8.84
1943	2.689/2.754	0.130	41.500/42.500***	2.00	19.05	Zinc coated steel	7.80
1944-1946	3.110	0.130	48.000	2.00	19.05	95 Cu, 5 Zn	8.86
1947-1962	3.110	0.130	48.000	2.00	19.05	95 Cu, 5 Zn & Sn	8.84
1962-1982	3.110	0.130	48.000	2.00	19.05	95 Cu, 5 Zn	8.86
1982-	2.500	0.100	38.581	1.54	19.05	97.5 Zn, 2.5 Cu****	7.17

COIN / DATES OF ISSUE	GRAMS WGT.	TOL.	GRAINS WGT.	TOL.	DIAMETER (mm)	COMPOSITION	SPECIFIC GRAVITY
TWO CENTS							
1864-1873	6.221	0.259	96.000	4.00	23.00*	95 Cu, 5 Zn & Sn	8.84
THREE CENTS (Cu-Ni)							
1865-1873	1.944	0.259	30.000	4.00	17.90*	75 Cu, 25 Ni	8.92
1873-1889	1.944	0.130	30.000	2.00	17.90*	75 Cu, 25 Ni	8.92
FIVE CENTS							
1866-1873	5.000	0.130	77.162	2.00	20.50*	75 Cu, 25 Ni	8.92
1873-1883	5.000	0.194	77.162	3.00	20.50*	75 Cu, 25 Ni	8.92
1883-1942	5.000	0.194	77.162	3.00	21.21	75 Cu, 25 Ni	8.92
1942-1945	5.000	0.194	77.162	3.00	21.21	56 Cu, 35 Ag, 9 Mn	9.25*
1946-	5.000	0.194	77.162	3.00	21.21	75 Cu, 25 Ni	8.92
TRIME (Silver)							
1851-1853	0.802	0.032	12.375	0.50	14.00*	750 Ag, 250 Cu	10.11
1854-1873	0.746	0.032	11.520	0.50	14.00*	900 Ag, 100 Cu	10.34
HALF DIME							
1794-1795	1.348		20.800		16.50*	892.427 + Ag, 107.572 Cu	10.32
1795-1805	1.348		20.800		16.50*	892.427 + Ag, 107.572 Cu	10.32
1829-1837	1.348		20.800		15.50*	892.427 + Ag, 107.572 Cu	10.32
1837-1853	1.336	0.032	20.625	0.50	15.50*	900 Ag, 100 Cu	10.34
1853-1873	1.244	0.032	19.200	0.50	15.50*	900 Ag, 100 Cu	10.34
DIME							
1796-1828	2.696		41.600		18.80*	892.427 + Ag, 107.572 Cu	10.32
1828-1837	2.696		41.600		17.90*	892.427 + Ag, 107.572 Cu	10.32
1837-1853	2.673	0.032	41.250	0.50	17.90*	900 Ag, 100 Cu	10.34
1853-1873	2.488	0.032	38.400	0.50	17.90*	900 Ag, 100 Cu	10.34
1873-1964	2.500	0.097	35.581	1.50	17.91	900 Ag, 100 Cu	10.34
1965-	2.268	0.091□	35.000	1.40□	17.91	75 Cu, 25 Ni on pure Cu	8.92
TWENTY CENTS							
1875-1878	5.000	0.097	77.162	1.50	22.50*	900 Ag, 100 Cu	10.34
QUARTER DOLLAR							
1796-1828	6.739		104.000		27.00*	892.427 + Ag, 107.572 Cu	10.32
1831-1837	6.739		104.000		24.26*	892.427 + Ag, 107.572 Cu	10.32
1837-1853	6.682	0.065	103.125	1.00	24.26*	900 Ag, 100 Cu	10.34
1853-1873	6.221	0.065	96.000	1.00	24.26*	900 Ag, 100 Cu	10.34
1873-1947	6.250	0.097	96.452	1.50	24.26	900 Ag, 100 Cu	10.34
1947-1964	6.250	0.194	96.452	3.00	24.26*	900 Ag, 100 Cu	10.34
1965-	5.670	0.227□	87.500	3.50□	24.26	75 Cu, 25 Ni on pure Cu	8.92
1976	5.750□	0.200□	88.736□	3.09□	24.26	40% silver clad**	9.53
HALF DOLLAR							
1794-1795	13.478		208.000		32.50*	892.427 + Ag, 107.572 Cu	10.32
1796-1836	13.478		208.000		32.50*	892.427 + Ag, 107.572 Cu	10.32
1836-1853	13.365	0.097	206.250	1.50	30.61*	900 Ag, 100 Cu	10.34
1853-1873	12.441	0.097	192.000	1.50	30.61*	900 Ag, 100 Cu	10.34
1873-1947	12.500	0.097	192.904	1.50	30.61	900 Ag, 100 Cu	10.34
1947-1964	12.500	0.250	192.904	4.00	30.61	900 Ag, 100 Cu	10.34
1965-1970	11.500	0.400□	177.472	6.17□	30.61	40% silver clad**	9.53
1971-	11.340	0.454□	175.000	7.00□	30.61	75 Cu, 25 Ni on pure Cu	8.92
1976	11.500	0.400□	177.472	6.17□	30.61	40% silver clad**	9.53
1982	12.500	0.400□	192.904	6.17□	30.56	900 Ag, 100 Cu	10.34
DOLLAR							
1794-1795	26.956		416.000		39.50*	892.427 + Ag, 107.572 Cu	10.32
1796-1803	26.956		416.000		39.50*	892.427 + Ag, 107.572 Cu	10.32
1840-1935	26.730	0.097	412.500	1.50	38.10	900 Ag, 100 Cu	10.34
1971-1978	22.680	0.907□	350.000	14.00□	38.10	75 Cu, 25 Ni on pure Cu	8.92
1971-1976	24.592	0.984□	379.512	15.18□	38.10	40% silver clad**	9.53
1979-1981	8.100	0.300□	125.000	5.00□	26.50	75 Cu, 25 Ni on pure Cu	8.92
1983-1988	26.730	0.400	412.500	6.17	38.10	90 Ag, 10 Cu	10.34
TRADE DOLLAR							
1873-1883	27.216	0.097	420.000	1.50	38.10	900 Ag, 100 Cu	10.34
GOLD DOLLAR							
1849-1854	1.672	0.016	25.800	0.25	13.00*	900 Au, 100 Cu & Ag	17.16
1854-1873	1.672	0.016	25.800	0.25	14.86*	900 Au, 100 Cu & Ag	17.16
1873-1922	1.672	0.016	25.800	0.25	14.86*	900 Au, 100 Cu	17.16
QUARTER EAGLE							
1796-1808	4.374		67.500		20.00*	916.667 Au, 83.333 Cu & Ag	17.45
1821-1827	4.374		67.500		18.50*	916.667 Au, 83.333 Cu & Ag	17.45
1829-1834	4.374		67.500		18.20*	916.667 Au, 83.333 Cu & Ag	17.45
1834-1836	4.180	0.008	64.500	0.13	18.20*	899.225 Au, 100.775 Cu & Ag	17.14
1837-1839	4.180	0.016	64.500	0.25	18.20*	900 Au, 100 Cu & Ag	17.16
1840-1873	4.180	0.016	64.500	0.25	17.78*	900 Au, 100 Cu & Ag	17.16
1873-1929	4.180	0.016	64.500	0.25	17.78*	900 Au, 100 Cu	17.16
THREE DOLLARS							
1854-1873	5.015		77.400		20.63*	900 Au, 100 Cu & Ag	17.16
1873-1889	5.015	0.016	77.400	0.25	20.63*	900 Au, 100 Cu	17.16
FOUR DOLLARS (Pattern issue)							
1879-1880	7.000*		108.026*		21.59*	857 Au, 43 Ag, 100 Cu*	16.67*

COIN/DATES OF ISSUE	GRAMS WGT.	TOL.	GRAINS WGT.	TOL.	DIAMETER (mm)	COMPOSITION	SPECIFIC GRAVITY
HALF EAGLE							
1795-1829	8.748		135.000		25.00*	916.667 Au, 83.333 Cu & Ag	17.45
1829-1834	8.748		135.000		22.50*	916.667 Au, 83.333 Cu & Ag	17.45
1834-1836	8.359	0.017	129.000	0.26	22.50*	899.225 Au, 100.775 Cu & Ag	17.14
1837-1840	8.359	0.016	129.000	0.25	22.50*	900 Au, 100 Cu & Ag	17.16
1840-1849	8.359	0.016	129.000	0.25	21.54*	900 Au, 100 Cu & Ag	17.16
1849-1873	8.359	0.032	129.000	0.50	21.54*	900 Au, 100 Cu & Ag	17.16
1873-1929	8.359	0.016	129.000	0.25	21.54*	900 Au, 100 Cu	17.16
1986-1988	8.359	0.042	129.000	0.65	21.59	900 Au, 60 Ag, 40 Cu	17.60
EAGLE							
1795-1804	17.496		270.000		33.00*	916.667 Au, 83.333 Cu & Ag	17.45
1838-1849	16.718	0.016	258.000	0.25	27.00*	900 Au, 100 Cu & Ag	17.16
1849-1873	16.718	0.032	258.000	0.50	27.00*	900 Au, 100 Cu & Ag	17.16
1873-1933	16.718	0.032	258.000	0.50	27.00*	900 Au, 100 Cu	17.16
1984	16.718	0.088	258.000	1.36	27.00	900 Au, 100 Cu	17.30
DOUBLE EAGLE							
1850-1873	33.436	0.032	516.000	0.50	34.29	900 Au, 100 Cu & Ag	17.16
1873-1933	33.436	0.032	516.000	0.50	34.29	900 Au, 100 Cu	17.16
AMERICAN EAGLE BULLION COINS 1986—							
Dollar	31.103	min.	479.993	min.	40.60	999.3 Ag	10.49
\$5	3.393	0.028	52.362	0.43	16.50	916.7 Au, 30 Ag, 53.3 Cu	17.78
\$10	8.483	0.050	130.913	0.77	22.00	916.7 Au, 30 Ag, 53.3 Cu	17.78
\$25	16.966	0.085	261.825	1.31	27.00	916.7 Au, 30 Ag, 53.3 Cu	17.78
\$50	33.931	min.	523.635	min.	32.70	916.7 Au, 30 Ag, 53.3 Cu	17.78

* — Unofficial data.

** — Consists of layers of 800 Ag, 200 Cu bonded to a core of 209 Ag, 781 Cu.

*** — Cents struck on steel planchets produced in 1942 weighed 41.5 grains, while those struck on planchets produced later in 1943 weighed 42.5 grains.

**** — Consists of a planchet composed of 99.2 percent Zn and 0.8 percent Cu, the whole plated with pure copper.

□ — Not specified by law, established instead by the Director of the Mint.

Au = Gold; Ag = Silver; Cu = Copper; Mn = Manganese; Ni = Nickel; Sn = Tin; Zn = Zinc.

X-Ray Analysis Reveals Previously Unsuspected Pattern

Within the study of U.S. pattern coinage and related items are many unanswered questions. The most common area of uncertainty concerns the exact composition of a given piece.

In the standard reference on the series, *United States Pattern, Experimental and Trial Pieces*, Dr. J. Hewitt Judd usually refers to an alloy of 75-percent copper/25-percent nickel as "nickel" and 88-percent copper/12-percent nickel as "copper-nickel," though in common numismatic usage both are referred to as "copper-nickel." Pure nickel is called "nickel (pure)" and is described as magnetic, while various experimental alloys are spelled out when known.

Sometimes experiments involved the use of similar alloys within the same year, such as the Flying Eagle large cent patterns of 1855, which were struck in copper (J-167), bronze (J-168), 80-percent copper/20-percent nickel (J-170), and 60-percent copper/40-percent nickel (J-171). In most cases the first two can be differentiated by color, the copper being a solid chocolate brown and the bronze showing streaks of brass from improper mixing of the copper, tin and zinc. The two copper-nickel alloys, however, cannot be distinguished by the same method.

Recently ANACS received four copper-nickel pieces with the request that they be identified as either J-170 or J-171. Rather than return them as "No Decision," as would normally be the case, ANACS decided to bear the expense of X-ray analysis to see if there might be some other way of telling them apart once they were properly identified.

Surprisingly, the four pieces proved to be composed of neither of the expected alloys. The first three pieces averaged approximately 75-percent copper/12-percent nickel/13-percent zinc, an alloy known as one type of German silver. The fourth piece showed approximately the same composition plus a trace of aluminum, which may have been surface contamination on the sample tested, an



German silver 1855 pattern cents. Weakly struck areas around eagle's head, wings, talons and tail feathers; wreath and reverse lettering also is weak.

unintentional contamination of the alloy itself that occurred when it was melted, or a deliberate attempt to soften the alloy.

The composition certainly needed softening, as the four pieces examined were all very weakly struck. After the government's last experiment with German silver (other alloys were tested on 1853 and 1854 cents), the Mint gave up and adopted the 88-percent copper/12-percent nickel alloy used in small-sized cents of 1856-64.

The four pieces tested by ANACS, which ultimately were designated J-170a, might be missing links between the various copper-nickel and German silver patterns of 1852-55, and the copper-nickel Flying Eagle and Indian cents. The 12-percent nickel content of the four pieces is consistent with that of the 1856-64 cents, but the zinc was replaced by an equal percentage of copper in the cent issues.

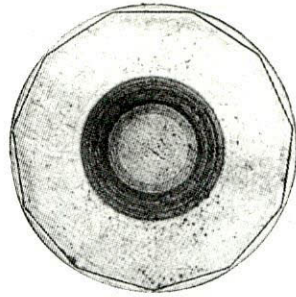
This discovery has raised the question of whether Judd numbers 170 and 171 actually exist. Considering that four pieces thought to be one or the other turned out

to be neither, perhaps no typical examples of either variety exist.

While on the subject of experimental pieces, one issue of particular interest was struck by the U.S. Mint, not to test alloys or designs, but rather vending machines and coin counters.

Struck by the thousands in 1979, the pieces were loaned to manufacturers of equipment produced to handle the flood of Susan B. Anthony dollars released that year. The pieces were struck in copper-nickel clad on copper for the vending machine and slug rejector manufacturers, who were concerned with the electrical-resistance characteristics of the actual coins; and in solid copper-nickel for coin-wrapping and counting-machine manufacturers, who were only concerned about the physical dimensions of the actual coins.

The characteristics of the experimental piece—diameter, weight, 11-sided raised rim and reeded edge—resemble those of the SBA dollar. The obverse and reverse of the piece feature broad, shallow



Susan B. Anthony trial piece shows 11-sided raised rim and shallow mound on either side. Machining marks indicate mound was crudely routed into a blank die with a lathe.

mounds that simulate the raised relief of the actual coin.

According to Alan Herbert of *Numismatic News*, the U.S. Mint takes the position that because the test pieces were not legally issued, they are subject to seizure by the Secret Service. Special thanks are extended to Mr. Herbert for the photographs and information presented in this discussion.

Authentication

Determining Metal Content Often a Difficult but Necessary Part of Authentication

A difficult task that authenticators frequently must tackle is discerning the metal content of a coin or medal, a determination that often indicates if a specimen is rare, common, counterfeit or a pattern piece. In some cases, this decision can have financial repercussions.

One method of determining metal content is chemical analysis, which often requires use of an acid solution. However, because of ANACS' policy of non-destructive testing, use of chemicals or other methods that might impair a coin are not considered.

A simple, non-destructive approach in establishing a coin's metal content is to study its color. Since most pure metals have a distinct color, visual inspection helps identify elements such as gold, silver or copper. However, determining alloys such as brass or bronze by color alone

can be extremely difficult. A coin's magnetic properties also provide clues to its metal content. For example, iron, steel and pure nickel are easily detected with a magnet.

A more precise indicator of metal content is the specific gravity test. Metals have varying densities, that is, weight per given volume. A specific gravity test compares a metal's density to the density of an equal volume of a standard substance, usually water. The resulting value is referenced to a standard chart, which indicates specific gravities for particular metals or alloys. For instance, a cubic inch of pure silver weighs 10.55 times that of an equal volume of pure water.

Some metals or alloys have specific gravities that are very close or identical to one another, such as copper (8.92), nickel (8.90), bronze (8.74 to 8.86) and

brass (8.83), all of which frequently are used in the manufacture of coinage. If a coin is struck in a variety of such metals, accurate determination of the content is especially difficult, as the color of the coin gives little indication and the specific gravity test is inconclusive.

An example is Canada's 1859 "Narrow 9" cent. Most specimens are struck in bronze that is 95-percent copper, 4-percent tin and 1-percent zinc; however, a few rare examples were produced in brass comprised of 85-percent copper and 15-percent zinc. The specific gravity of a bronze cent is 8.8, whereas that of a brass specimen is 8.7.

ANACS was faced with the challenge of determining if an example of this cent was struck in bronze or brass. Testing revealed a specific gravity of 8.7, which, though it indicated the piece most likely was brass, was too close to that of bronze to be conclusive. The light color of the coin also suggested a brass composition, but the toning on a bronze coin can be very similar.

It was at this point that ANACS decided to perform a surface x-ray analysis of the coin using an electron microscope, a process that is in no way detrimental to the coin or its surfaces. (Technically, this process is called "energy dispersive x-ray analysis" or "x-ray spectroscopy.") An electron beam of constant strength is focused on a small portion of the specimen, penetrating the surface to an approximate depth of one micron. The electrons in the beam impact those in the metal, causing electrons in lower-energy orbits to be replaced by electrons from orbits of greater energy. This transfer of electrons releases energy, a by-product of which is the emission of x-rays.

Each element emits x-rays of a characteristic wavelength. The x-rays are diffracted by a crystal and collected on a detector that processes them into electrical energy. The amount of energy released by the element at each energy level is measured and subsequently plotted and displayed on a cathode-ray tube or plotted on a graph. The larger the count or intensity, the larger the percentage of that

element in the sample.

The results of ANACS' tests on the 1859 Canadian cent were as follows: 85.19-percent copper and 14.81-percent zinc. The coin was indeed brass and was certified as such.

Surface x-ray analysis also proves useful in counterfeit detection. The United States Mint maintains high standards of quality control for its alloyed coins; consequently, if a coin's metal content varies too much from mint tolerances, the coin's authenticity should be questioned.

ANACS has inspected many cast counterfeits of early U.S. type coins over the years. Although a cast counterfeit may have the same metal content as an authentic struck specimen, the density of the genuine coin is greater because the striking process places the metal under pressure, thus reducing its volume but maintaining the same weight. In effect, the density of the metal is increased by 1 to 2 percent. Cast counterfeits also contain minute air bubbles that can decrease the density from 1 to 3 percent.

To compensate for these discrepancies in density, counterfeiters often use different metals in preparing alloys for their cast copies. The addition of a denser metal, such as gold, is readily detected through surface x-ray analysis. An example of this type of counterfeit—a cast 1796 half dollar—was showcased in the October 1986 issue of *The Numismatist*. The counterfeit specimen weighed 12.47g and had a specific gravity of 11.4, while genuine coins weigh approximately 13.48g and have a specific gravity of 10.3.

However, surface x-ray analysis has its drawbacks. Because of contaminants on a coin's surface, the results of the analysis often indicate a multitude of trace elements, though such spurious readings generally only influence "close calls." In addition, the test may be ineffective for specimens that have been plated, though some circulated pieces can be tested in areas of high relief where the plating has worn off. Plating is relatively easy to spot through visual inspection. If a coin's x-ray analysis differs greatly from the results of its specific gravity test, chances are the coin has been plated.

Counterfeit Large Cent Remains Highly Deceptive

A thought-provoking question raised from time to time is "Has the perfect counterfeit coin ever been produced?" The only possible answer is "How would we ever know?"

One particularly deceptive counterfeit



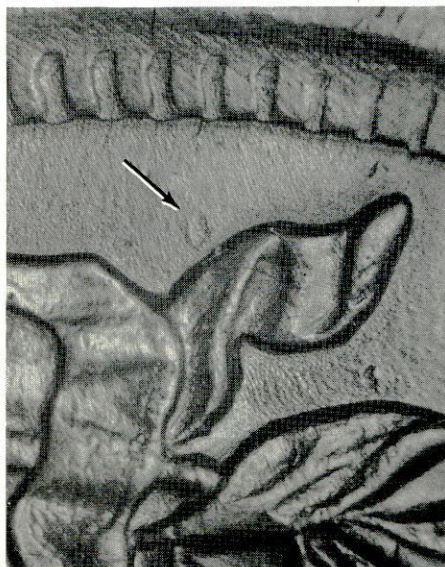
Counterfeit "1851 over inverted 18" large cent.



Pit and raised metal on Liberty's neck.



Pits in upper horizontal bar of first T and in the left base of A in STATES.



Depression in field below ribbon on reverse of counterfeit "1851 over inverted 18" large cent.



Elongated depression in hairstrands by ear.

is the "1851 over inverted 18" large cent. Although this piece is not new, having been discovered more than five years ago, it is an extremely good counterfeit that fools individuals from time to time. Counterfeit colonial pieces, Indian cents and other large cents with the same basic characteristics are known to exist and, like the "1851 over inverted 18" cent, seem to have originated in the California area.

At first glance the counterfeit "1851

over inverted 18" large cent looks like a well-struck, uncirculated coin—the type you'd love to own. Its luster may range from exceptional to slightly dull, and the color generally is an even chocolate brown. Unfortunately, the piece possesses few specific diagnostics. Minute depressions and pits are present throughout the surface, but most can be seen only under 7x magnification. The coin conforms to original mint standards for weight and diameter.

Cents

Counterfeit 1805/5 Cent



Counterfeit 1805/5 cent appears to be well struck and uncirculated.

A previous column dealt with "California" counterfeits, in particular a deceptive "1851 over inverted 18" large cent. Another counterfeit originating in the California area is the 1805/5 cent (Sheldon 267), which shares many of the basic characteristics of the aforementioned piece. It, too, appears to be well struck and uncirculated, and displays acceptable luster and even, chocolate brown color. The weight and diameter conform to original mint standards.

Diagnostics of Spurious 1877 Cent Typical of Counterfeit Coins

If you've seen one, you've seen them all. That familiar statement has as much meaning in numismatics as anywhere. A good example is the counterfeit 1877 Indian Head cent shown here. This piece shares many of the diagnostics common to a majority of counterfeits—whether copper, silver or gold—such as soft strike, lack of detail and a sharp edge.

At first glance, the counterfeit 1877 cent seems to exhibit heavy wear. However, closer examination reveals that it is the soft strike and lack of detail that accounts for the coin's worn appearance. If the coin was truly worn, the Indian's ribbon and hair ends would show flat spots, and the headband would blend in with the forehead, the standard progression of wear for Indian Head cents. The Indian's remaining features would still be reasonably sharp and would exhibit contrast.

However, the entire design on the counterfeit cent is weak. The lack of crisp separation between the fields and raised areas of the coin likely is the result of improper



At first glance, counterfeit 1877 Indian Head cent appears heavily worn.

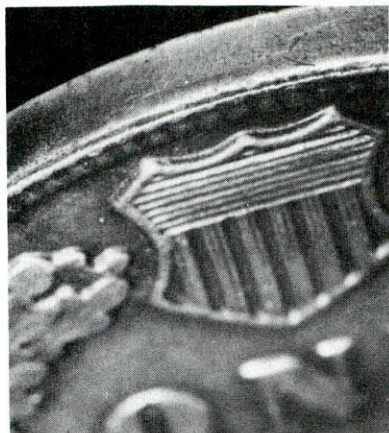


Lettering on the counterfeit 1877 cent lacks definition.

striking pressure or the use of counterfeit dies that lacked adequate definition.

The sharp edge, typical of so many counterfeit coins, also is caused by improper striking pressure. Quite often the edge is so sharp that it resembles that on a proof coin. Genuine business-strike Indian Head cents exhibit well-rounded edges.

However, there are exceptions to every rule. Don't assume that you have a counterfeit coin simply because its description matches the general diagnostics mentioned here. Some genuine coins can and do exhibit the same characteristics. Every counterfeit has its own specific, condemning features, such as repeating depressions and/or tool marks. An awareness of the standard traits of counterfeit coins will prompt you to scrutinize a suspicious coin more thoroughly for specific diagnostics.



The edge of the counterfeit 1877 cent is sharp, a diagnostic typical of many counterfeit coins.

Cents

So-Called "1869 over 68" Cent Variety a Misnomer

ANACS would like to put to rest an old misnomer—the so-called "1869 over 68" cent. This variety is not an overdate, as once believed, but rather a repunched date, "1869 over 69."

In the very early days of the ANA Certification Service, some of these coins were certified as the "1869 over 68" variety. However, since the late 1970s, these coins have been correctly certified as "1869 over 69."

If anyone has an old certificate bearing the "1869 over 68" designation, ANACS will issue a new certificate free of charge. For additional information, contact the ANA Certification Service.



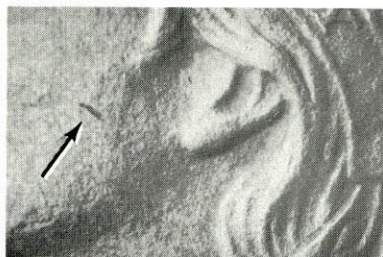
Once considered an overdate, the so-called "1869 over 68" cent actually has a repunched date, "1869 over 69."

1909-S Cent Another in the Bay Area Counterfeit Series

Certification Service reports in the past have dealt with "California" or "Bay Area" counterfeits of both half cents and large cents. This month's column features yet another counterfeit of this type: a 1909-S Indian Head cent. The piece is attractive, highly deceptive, and displays the same workmanship evident in all Bay Area specimens.

The counterfeit 1909-S cent is struck very slightly off-center. On the obverse there is no rim between 2 and 6 o'clock, causing the denticles along that area to extend completely to the edge. The rim gradually increases in width from 6 to 10 o'clock, its broadest point, and then slowly decreases until it disappears around 2 o'clock.

The coin's chocolate-brown color is associated with other Bay Area counterfeits. In addition, the counterfeit cent dis-



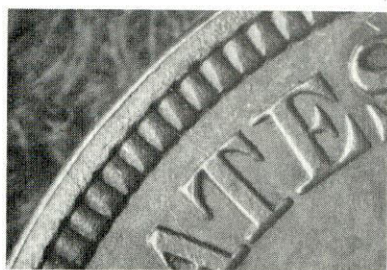
A linear depression can be seen on the Indian's cheek.



Light depressions punctuate the N and E of ONE.



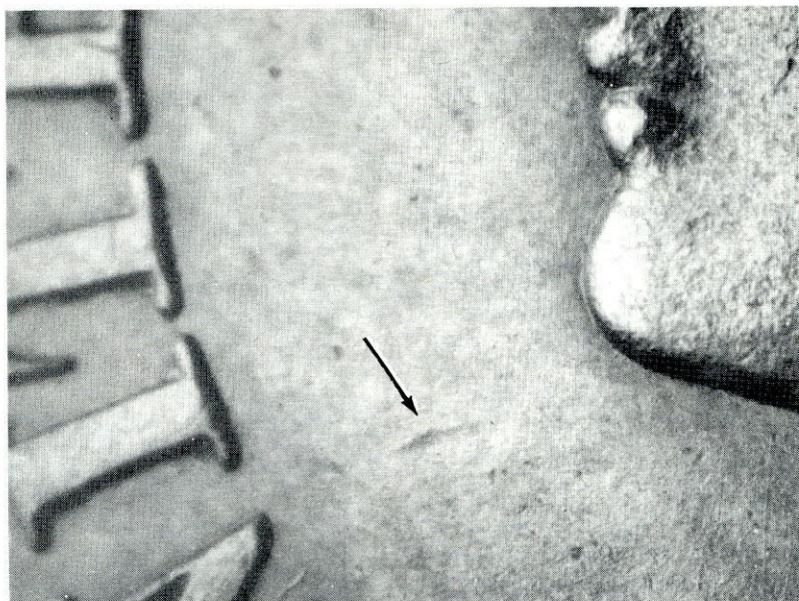
A counterfeit 1909-S Indian Head cent is struck very slightly off-center. No rim exists on the obverse between 2 and 6 o'clock.



A wire edge extends along the widest portion of the obverse rim.

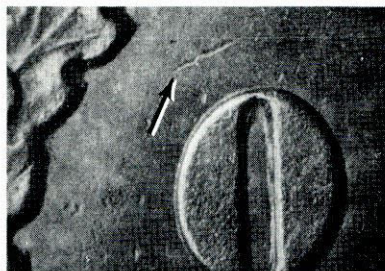
plays diagnostics typical of most spurious coins, mainly repeating depressions and raised metal. Linear depressions appear on the Indian's cheek; in the field halfway between the Indian's chin and the NI of UNITED; and in the field above and to the left of the O of ONE. Light depressions also are evident on the N and E of ONE. A wire edge extends along the widest portion of the obverse rim, and a raised dot of extra metal appears on the reverse rim below the mintmark.

ANACS would like to expand its file on Bay Area counterfeits. Upcoming articles will feature counterfeit cents dated 1877



A linear depression appears in the field halfway between the Indian's chin and the NI of UNITED.

and 1908-S. Readers who have pieces other than those soon to be reported or those discussed in past ANACS columns (the 1829 half cent, 1805/5 large cent, and "1851 over inverted 18" large cent) are encouraged to contact ANACS, 818 North Cascade Avenue, Colorado Springs, CO 80903-3279.



On the reverse, a linear depression is obvious above and to the left of the O in ONE.

Matte Proof Lincoln Cents, 1909-1917

Preparation of dies for proof production involves a special process in which a stock or inventory die is carefully selected and then highly polished and cleaned. In the early 1900s an experimental technique was initiated, whereby the dies or coins (or perhaps both) were sandblasted or chemically etched to achieve a finish that was granular in appearance. Proof coins displaying this particular finish are commonly referred to as Matte Proofs.

The exact method of manufacture of Matte Proof pieces has yet to be fully documented, but it is evident that they were struck twice at low speed and high pressure. Generally, a single pair of dies was used for Matte Proof production.

In James Rankin Young's book, *The United States Mint at Philadelphia* (1903), the author describes the operations of the Mint, room by room. His description of the medal room supports the use of sandblasting in the production of Proof coins:

In a single room in the southern end of the second floor of the building is the medal room, a department under the Coiner though almost an independent mint in itself. All the "proof coins" (those given a particularly fine finish) and medals are made in this room. On one side of the room is a small furnace and melting pot where melts can be made if necessary. On either side of the furnace is an annealing oven. In the center of the room is a large cutting press, which will cut dies up to four inches in diameter. Against the wall are two electrically driven hydraulic presses, capable respectively of a pressure of 400 and 300 tons to the square inch, and next to them the two hydraulic pumps. In the basement this department has a huge press capable of giving 1100 tons pressure to the square inch. This is used on the largest dies, those four inches in diameter. Off in an out-of-the-way corner is the old-fashioned hand screw press, with its long arms and heavy weights. The foreman, growing reminiscent, tells how, as a helper, he used to get these arms going around at such a gait that they would move the whole machine.

The proof sets of coins are made under the government supervision to be preserved for record, or sold to collectors. The face of the dies used in stamping these sets have been given an extra fine finish, and glisten as though they had been nickel-plated. The blanks for the coins are annealed and stamped by the hydraulic press. The operator then gives them a thorough acid bath, and polishes them singly with a handful of wet sand. If they are bronze pieces, they may be given the deep bronze finish or clouded over in the sand blast. The latter device is a small wooden box with glass sides. A pipe on the inside blows down a fine shower of sand. The operator, wearing a big pair of mits to protect his hands, holds the coin under this stream of sand until the operation is finished, when it has a delicate frosted appearance.¹

Matte Proof coins have been known to differ slightly in style. Some appear to have a "satin" finish (a very fine but slightly subdued lustre), while others are considered to have a "deep matte" finish (a dull, granular lustre) caused by variations in the method of production.

The focus of this study is the Matte Proof Lincoln cent. In most cases Matte Proof cents have sharp, squared-off inner and outer rims; a soft, dull lustre; a slightly granular



1909-VDB Matte Proof Cent.

surface; and often, very fine die polish. They also frequently display light horizontal striations around the edge of the coin and a brilliant rather than dull matte finish. However, care must be taken when attempting to identify Matte Proof cents as some deceptive business strikes have surfaced.

The diagnostics described here are drawn from ANA Certification Service files of known dies and die states. However, other genuine Matte Proof coins also could exist, the products of different dies or die states. Authentication of any coin requires consideration of all diagnostics, not just a single characteristic. Occasionally, business strikes can be mistaken for Matte Proof pieces, but, as far as our records show, the diagnostics discussed in this article have appeared only on proof coins.

NOTES

1. James Rankin Young. *The United States Mint at Philadelphia* (Philadelphia: 1903), p. 65.



1909-VDB Matte Proof Cent, reverse.



1909-VDB Matte Proof Cent, obverse.

1909-VDB

Quantity Minted: 420

Most often seen with deep matte surface, sharp detail, and sharp, squared-off inner and outer rims.

Obverse: Shows die polish on and in front of nose. Single die scratch behind Lincoln's coat, toward R in LIBERTY.

Reverse: Crescent-shaped die chip to right of M in UNUM.

1909

Quantity Minted: 2,198

Same surface characteristics as 1909-VDB. Some late die states seem to have more of a satin finish.

Obverse 1: Same obverse die as 1909-VDB.

Reverse A: Die chips at 3 and 9 o'clock, between wheat grains and rim.

Obverse 2: Die crack under Lincoln's bust. Short die gouges above L in LIBERTY. Die polish by TY in LIBERTY.

Reverse B: Heavy die polish by O in ONE. Die polish by T in CENT and under CA in AMERICA.

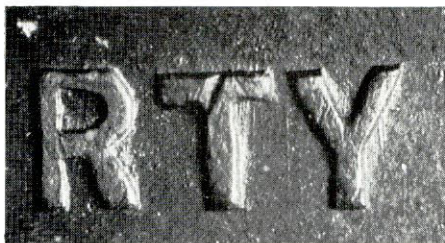
Obverse 3: Heavy die polish to right of nose.



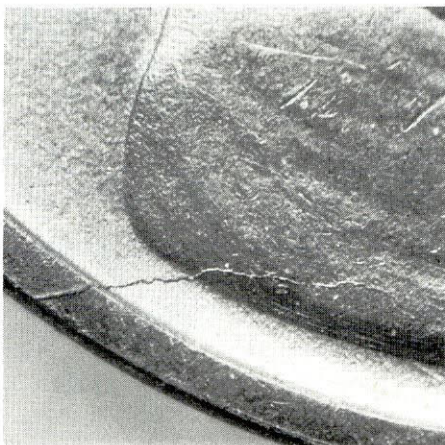
1909 Matte Proof Cent, late die state.



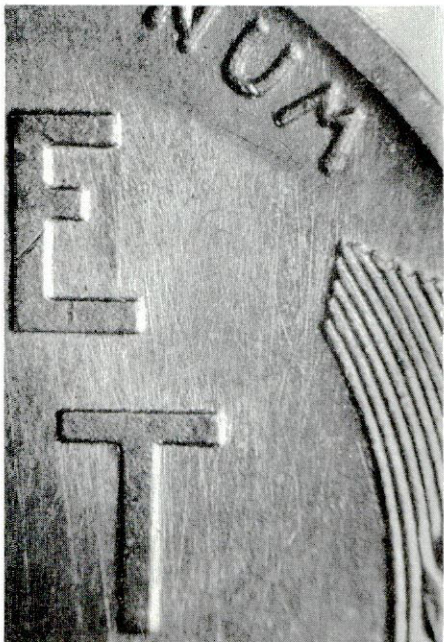
1909 Matte Proof Cent, reverse A.



1909 Matte Proof Cent, obverse 3.



1909 Matte Proof Cent, obverse 2.



1909 Matte Proof Cent, reverse B.

1910

Quantity Minted: 2,405

Usually nice matte surface. Some have soft satin finish.

Obverse 1—Early Die State: Heavy die polish at WE.

Reverse: Raised lines from lower left and lower right of M in UNUM are caused by damage to the master die and appear on business strikes as well. However, die scratch from lower inside center of the M in UNUM is diagnostic of this proof die.

Obverse 1—Late Die State: Heavy die polish at WE. Heavy die gouges in TRUST.

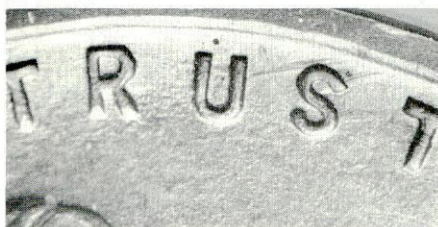
Obverse 2: Die gouges and die polish by WE. Die gouges at IN GOD.



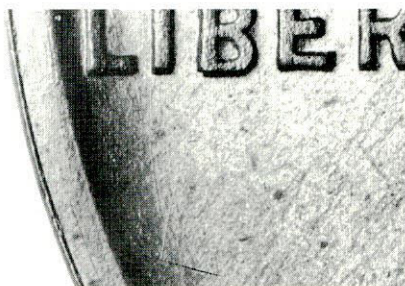
1910 Matte Proof Cent, obverse 1, early die state.



1910 Matte Proof Cent, reverse.



1910 Matte Proof Cent, obverse 1, late die state.



1911 Matte Proof Cent, obverse 1.



1910 Matte Proof Cent, obverse 2.

1911

Quantity Minted: 1,733

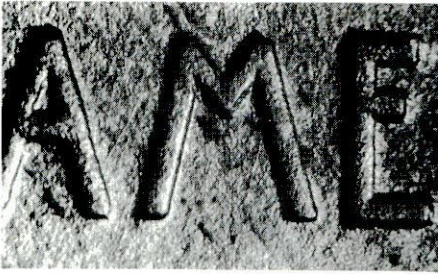
Very fine die polish. Late die states exhibit soft satin finish.

Obverse 1: Fine curved die polish at date. Fine die polish below L and I in LIBERTY. Extra metal inside Y in LIBERTY.

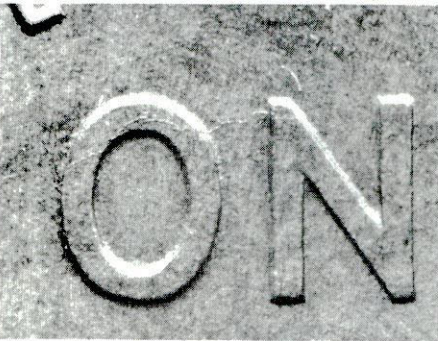
Reverse A: Fine die polish at AME of AMERICA. Late die states have die crack through O of ONE.

Obverse 2: Possibly same die as above. Small fine die scratches above first 1 in date.

Reverse B: Possibly same die as above. Die crack from rim at 2:30 through wheat hairs.



1911 Matte Proof Cent, reverse A.



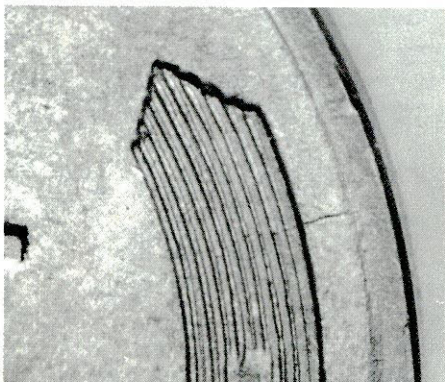
1911 Matte Proof Cent, reverse A, late die state.



1912 Matte Proof Cent, obverse, early die state.



1911 Matte Proof Cent, obverse 2.



1911 Matte Proof Cent, reverse B.

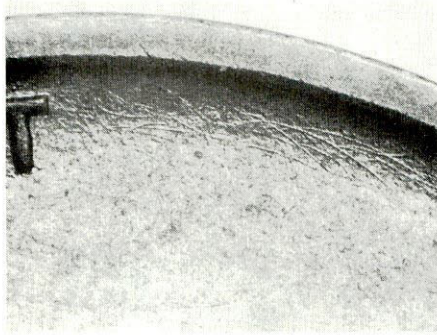
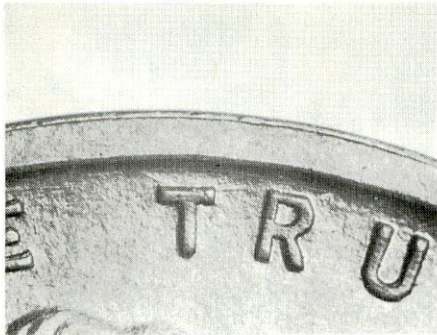
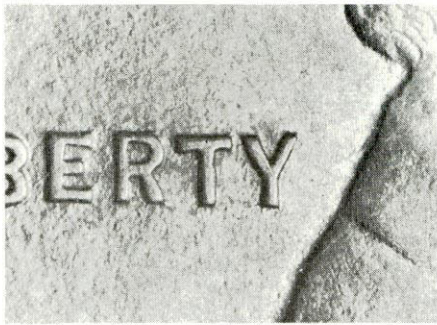
1912

Quantity Minted: 2,145

Usually seen with strong matte finish and numerous die polish lines.

Obverse—Early Die State: Die polish slanting to right of 91 in date. Horizontal die polish at ERTY of LIBERTY.

Obverse—Late Die State: Die polish above TY, and raised line on left side of Y in LIBERTY. Heavy die polish to left and right of first T in TRUST. Die polish above GOD. Circular die polish inside rim from 2 to 4 o'clock.



1912 Matte Proof Cent, obverse, late die state.

1913

Quantity Minted: 2,848

Well struck, often seen with soft matte finish. Very fine die polish is typical.

Obverse 1: Die polish from upper left of first 1 in date. Die polish and die gouge around IN. Die polish by G in GOD.

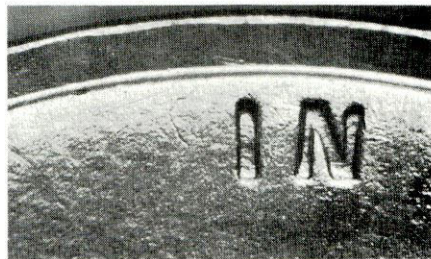
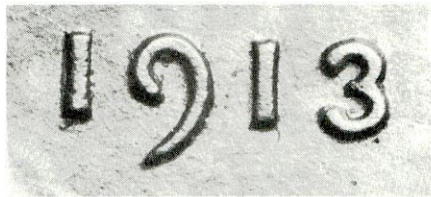
Reverse A: No diagnostics.

Obverse 2—Early Die State: Die polish above date, and above T and through Y of LIBERTY. Die polish below LIBERTY and at IN GOD and WE.

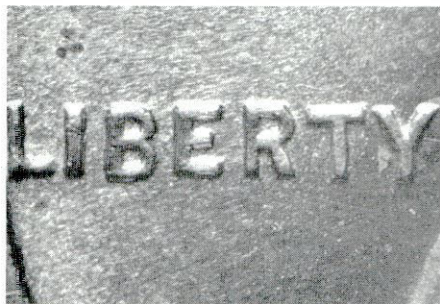
Reverse B—Early Die State: Die polish through UNUM and C of CENT. Curved die polish to right of N in CENT.

Obverse 2—Late Die State: Die polish around base of first 1 in date. Curved die polish above date. Die scratch through G and above OD of GOD.

Reverse B—Late Die State: Heavy die polish to right of T in CENT.



1913 Matte Proof Cent, obverse 1.



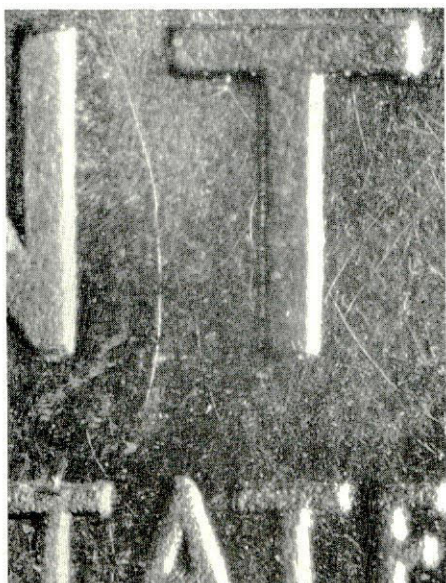
1913 Matte Proof Cent, obverse 2, early die state.



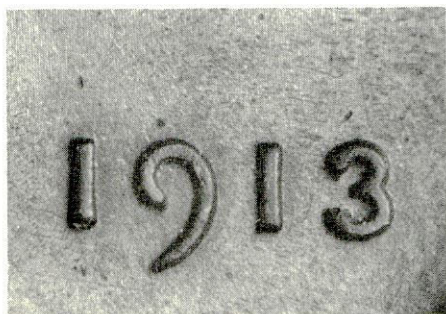
1913 Matte Proof Cent, obverse 2, early die state.



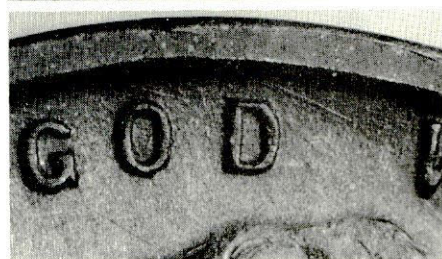
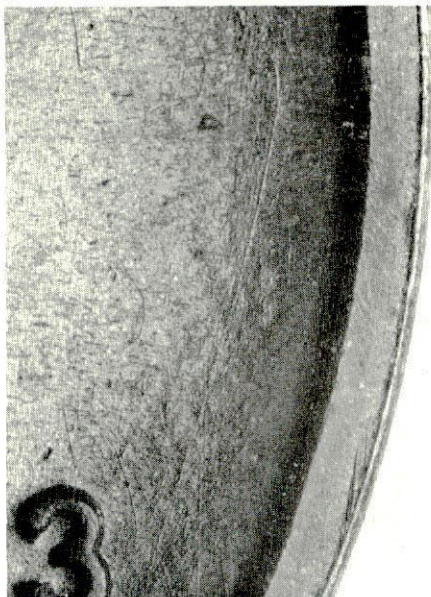
1913 Matte Proof Cent, reverse B, early die state.



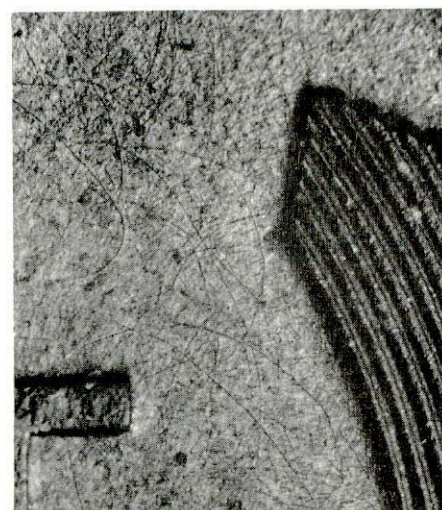
1913 Matte Proof Cent, reverse B, early die state.



1913 Matte Proof Cent, obverse 2, late die state.



1913 Matte Proof Cent, obverse 2, late die state.



1913 Matte Proof Cent, reverse B, late die state.

1914

Quantity Minted: 1,365

Usually deep matte surface, sharply struck.

Obverse—Early Die State: Die chip above first 1 in date. Die polish above WE and around LIBERTY.

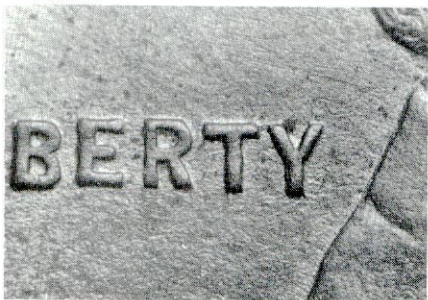
Obverse—Late Die State: Die chip above first 1 in date. Heavy die polish under chin.



1914 Matte Proof Cent, obverse, late die state.



1915 Matte Proof Cent, obverse.



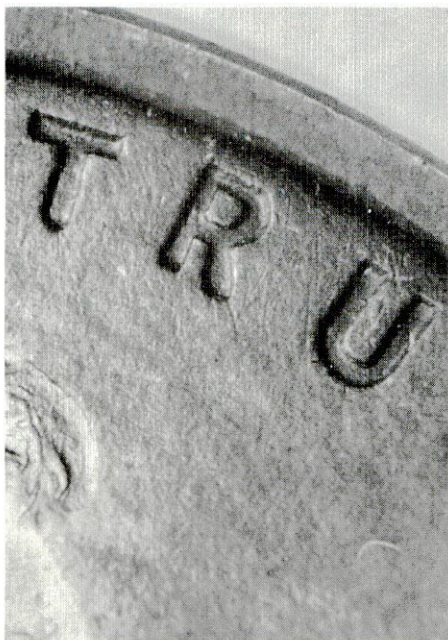
1914 Matte Proof Cent, obverse, early die state.

1915

Quantity Minted: 1,150

Well struck, strong matte surface, fine die polish.

Obverse: Die polish at IN, GOD and TRUST, and below R of LIBERTY. However, some die polish might be from the master die. If this is the case, similar die polish might appear on business strikes also.



1915 Matte Proof Cent, obverse.



1915 Matte Proof Cent, obverse.

NOTE

Further research has shown these die polish lines to be from the master die. They are not Matte Proof diagnostics, as they appear on both proofs and business strikes. At this time we have no definitive diagnostics for the 1915 issue. All that can be used are the general diagnostics listed at the beginning of this article.

1916

Quantity Minted: 1,050

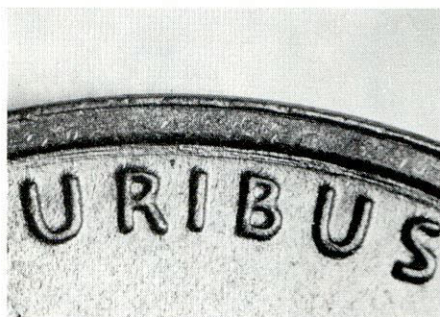
Very little die polish.

Obverse: Die polish between 1 and 9 in date, through UST of TRUST and at WE. Possibly early die state.

Reverse: Die polish above PLURIBUS.



1916 Matte Proof Cent, obverse.



1916 Matte Proof Cent, reverse.

1917

Though not an official proof issue, the 1917 was probably a special striking for presentation. Should have the basic diagnostics of Matte Proof cents.

1909-S and 1909-S VDB Lincoln Cents: New Counterfeits Discovered!

ANACS is often asked the question, "Has a counterfeiter ever made a coin that defies detection?" The very nature of this question precludes a definite answer; however, most collectors would probably say no. Although some counterfeiters are very accomplished in their chosen field, they are, hopefully, just not good enough. Eventually their handiwork is discovered.

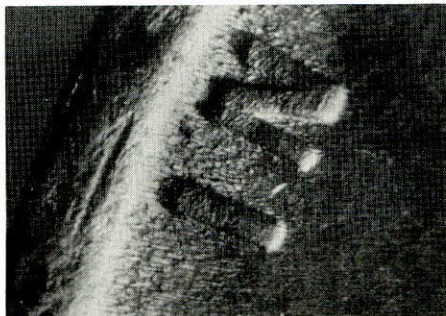
A case in point is the "new" and very deceptive counterfeit 1909-S VDB Lincoln cent recently submitted to ANACS. The history of this counterfeit can be traced to 1977, and examples may have been in existence well before then. This counterfeit is remarkably deceptive because it exhibits everything a genuine 1909-S VDB cent should. The counterfeit obverse die was copied from a known genuine 1909-S VDB obverse. Consequently, the mintmark style and position and all other die features are correct. Yet, unlike normal counterfeits, the counterfeiter's transfer process for duplicating the genuine coin was so good that even minute details of the genuine mintmark, such as the die chip in the upper loop of the S and the small diagonal depression on the upper serif of the mintmark, were transferred to the counterfeit dies. Even the die erosion and lustre are representative of a genuine U.S. Mint product. All these characteristics add up to one of the most dangerous



1909-S VDB and 1909-S Counterfeit Lincoln cents.



The die chip and diagonal depression on the upper serif are mintmark characteristics identical on both genuine and counterfeit 1909-S and 1909-S VDB Lincoln cents.



1909-S VDB Counterfeit: Long, thin depression on the rim parallel to edge above I of IN.

and deceptive counterfeits ever produced in any coinage series.

The obverse of this counterfeit was cataloged and published in the February 1982 issue of *The Numismatist*, when ANACS announced the discovery of a 1909-S Lincoln cent obverse combined with a known counterfeit reverse of a 1914-D cent. Apparently, the same counterfeiter produced 1909-S VDB, 1909-S and 1914-D counterfeit coins. Counterfeit

1909-S VDB cents and 1909-S cents with a common obverse have been seen, as well as counterfeit 1909-S and 1914-D counterfeit cents with a common reverse. However, collectors should be aware of the fact that some genuine 1909-S VDB and 1909-S cents were both struck from the same obverse die.

The most obvious obverse diagnostic features of this spurious 1909-S VDB Lincoln cent are:

1. A long, thin depression on the rim parallel to the edge above the I of IN.

2. A small diagonal depression slanting down from left to right on the rim above the E of WE.

3. A rather large depression between the folds of Lincoln's coat parallel to the coat's lapel.

The reverse of this counterfeit 1909-S VDB cent is exceptionally clean. A few small depressions do exist, most noticeably on the O and N of ONE, and under the second U of UNUM.

The easiest way to spot this counterfeit is to view the edge. Unlike the edge of a genuine 1909-S VDB cent, the edge of this counterfeit is rather sharp and squared off. Also, when viewed under magnification, the edge exhibits many light, criss-cross lines that form tiny x's. This is in contrast to the edge of a genuine cent which will often exhibit many parallel vertical lines caused by forced ejection from the collar in the minting process.

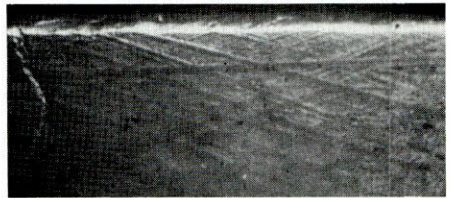
This cent, an outstanding example of the counterfeiter's art, is also an excellent example of the fact that no matter how good a counterfeit is, in all probability it will eventually be discovered.



1909-S VDB Counterfeit: Depression in rim above E of WE.



1909-S VDB Counterfeit: Depression on Lincoln's coat.



1909-S VDB Counterfeit: Edge view, showing crisscross pattern.

Counterfeit 1909-S VDB Cent Verified by Appearance of Second Specimen

Patience is a virtue in numismatics, particularly in the area of counterfeit detection. More than six years after the ANA Certification Service received a suspected counterfeit 1909-S VDB cent for authentication, ANACS staff examined another specimen struck from the same dies as the previous piece.

The first counterfeit 1909-S VDB cent was documented in the June 1981 issue of *The Numismatist* (pp. 1538-39) and in a softcover reference published by the ANA entitled *Counterfeit Detection: A Reprint from The Numismatist*. The article stated that because this was the only suspected counterfeit 1909-S VDB cent with specific diagnostics examined by ANACS, no absolute conclusions could be drawn.

Even though ANACS conducted an extensive study of the piece and felt that it most likely was a counterfeit, a "no decision" verdict was reached, meaning that no certificate was issued for the coin and that the owner was sent a form stating that ANACS could not conclusively



Counterfeit 1909-S VDB cent recently examined by ANACS.

certify that the coin was genuine.

Now, ANACS has examined another 1909-S VDB cent that appears to have been struck from the same dies used to produce the specimen described in the

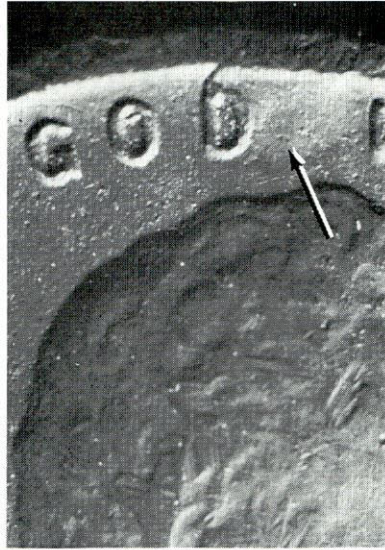


A faint line is apparent across the field between the 0 and the last 9 of the date and continues to the rim, passing the right side of the mintmark.

above-mentioned article. ANACS then continued its study by comparing this piece with photomicrographs of the cent received years earlier.

Some of the identifying characteristics common to both coins include: 1) a very large plateau of metal between the D of GOD and the W of WE; 2) a faint line across the field between the 0 and the last 9 of the date, continuing to the rim and passing to the right of the mintmark; 3) a small, easily overlooked lump of metal below the E of CENT; 4) a shallow, diagonal depression below RI of AMERICA; and 5) a die crack that runs through TES of STATES and across the lower right wheat ear to the rim. The crack begins as a very faint line and becomes progressively stronger as it crosses the wheat ear.

The verdict is in and the sentence is absolute: the 1909-S VDB cent recently submitted to ANACS is definitely struck from the same pair of dies as the specimen examined six years ago. Both coins are, without a doubt, counterfeit.



A large plateau of metal is evident between the D of GOD and the W of WE.



A lump of metal below the E of CENT is easily overlooked.



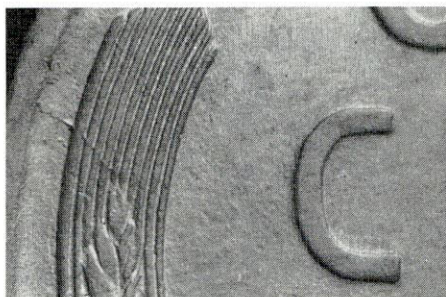
A die crack runs through TES of STATES and across the lower right wheat ear to the rim. The crack begins as a faint line and becomes progressively stronger as it crosses the lower third of the wheat ear.

“Revised” Counterfeit 1909-S VDB Cent

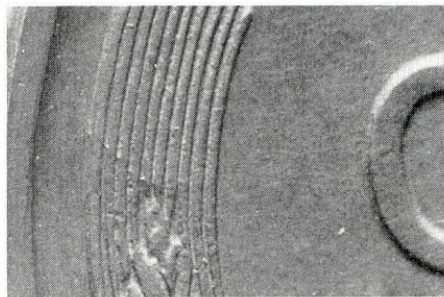
Because more and more counterfeit coins are detected each year, the counterfeiter must continually improve his craft. As reports of diagnostics of genuine and counterfeit coins are released to the general public, the counterfeiter uses this information when he creates his product.

A prime example of this evolution is the counterfeit 1909-S VDB cent that was

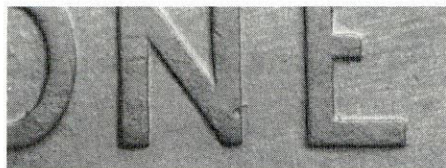
discussed in the December 1979 issue of *The Numismatist*. At the time of its discovery, the counterfeit cent exhibited depressions on the N's of ONE CENT and a die crack near the left wheat stalk and a die crack near the left wheat stalk. In April 1983 a second counterfeit 1909-S VDB cent surfaced, obviously a “revised” version of the previous one. Raised tool marks were evident on the N's in ONE CENT, apparently an effort to conceal the depressions. The die crack that appeared on the reverse of the first counterfeit, extending from the left wheat stalk to the rim, was almost completely obliterated, except for a small remnant within the wheat stalk itself.



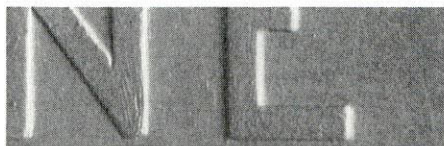
Counterfeit 1909-S VDB Cent: Die crack extending from the left wheat stalk to the rim.



Revised Counterfeit 1909-S VDB Cent: Die crack extending from the left wheat stalk to the rim is almost completely gone.



Counterfeit 1909-S VDB Cent: Depressions on the N's of ONE CENT.



Revised Counterfeit 1909-S VDB Cent: Raised tool marks cover what were once depressions on the N of ONE.

Characteristics of Genuine 1909-S VDB Cents

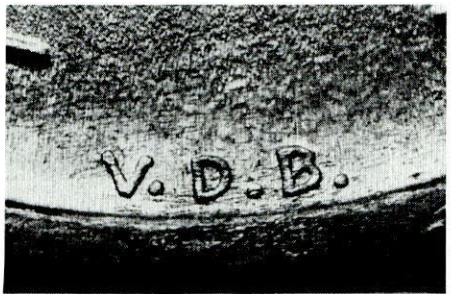
Since the exposure of an excellent counterfeit 1909-S VDB cent in the March 1983 issue of *The Numismatist*, several well-known, previously publicized counterfeits have been submitted to ANACS for evaluation. Because of the increased attention directed to genuine and counterfeit 1909-S VDB cents, the ANACS staff has prepared the following list of some diagnostics for genuine 1909-S VDB cents.

The style of both the mintmark and the designer's initials on 1909-S VDB cents has been well-publicized by ANACS in past years. However, despite the recent increase in the number of counterfeit 1909-S cents seen by ANACS, the vast majority of non-genuine cents are altered coins displaying added mintmarks.

The S mintmark on genuine 1909-S VDB cents features squared-off serifs, a small lump inside the upper curve of the S, and a diagonal groove in the upper serif. This mintmark style appears on all Lincoln cents, Liberty and Buffalo nickels, Mercury dimes and Walking Liberty halves struck at the San Francisco Mint from 1909 to mid-1917. The same mintmark style also appears on several gold coins issued in this period and on the Panama-Pacific commemorative gold pieces.



Mintmark characteristics of genuine 1909-S VDB cent.



Designer's initials as they appear on genuine 1909-S VDB cent.

Diagonal lines surrounding the mintmark are die erosion lines, a common characteristic of 1909-S VDB cents. These lines occurred when dies were used beyond their normal limits and consequently



Position 1: Mintmark is high and tilts to right. Top of S is above the bottom of the 9s in date. Left edge of S is even with right edge of first 9; right edge of S is even with center of left curve of 0.



Position 2: Mintmark is in medium position and tilts to right. Top of S is even with bottom of 9s in date. Left edge of S is even with right edge of first 9; right edge of S is even with center of left curve of 0.



Die chip in right obverse field (Position 1).

began to deteriorate.

The stylized initials of Victor David Brenner, the designer of the Lincoln cent, appear on the reverse of the 1909-S cent at the six-o'clock position. On genuine cents, the initials are slightly off-center to the left in relation to the ends of the wheat stalks. The center bar of the B slants upward from left to right, and the

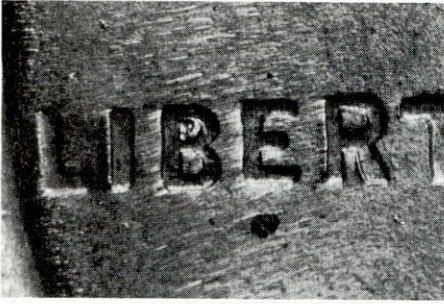
lower right curves of the D and B also slant upward, giving both letters an asymmetric appearance. The presence or absence of periods should not be used as a diagnostic, as genuine 1909-S VDB cents often possess weak periods or completely lack one, two or all three periods. The periods appear on the die as very shallow "dents," which easily filled with grease



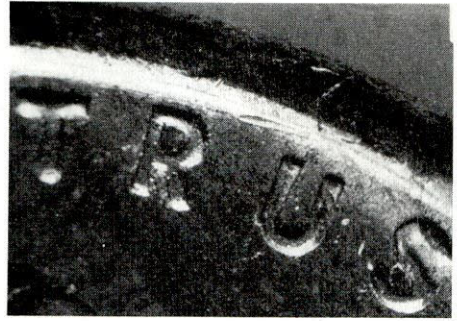
Position 3: Mintmark is in medium position and tilts to right. Top of S is even with bottom of 9s in date. Left edge of S is even with center of space between 9 and 0; right edge of S is just left of center of 0.



Position 4: Mintmark is low and upright. Top of S is well below bottom of 9s in date. Left edge of S is even with left edge of 0; right edge of S is even with center of 0.



Die chip in upper loop of B in LIBERTY (Position 4).



Die gouge above U in TRUST (Position 2).

during the striking process and thus often did not appear fully struck on the coin.

Four obverse dies were used to produce genuine 1909-S VDB cents, and ANACS has numbered these dies by mintmark position, from highest to lowest and from left to right. Position 1, apparently the last die in service, was first matched with a VDB reverse die and then later used with a plain reverse die, thus producing both 1909-S VDB and 1909-S cents. Position 1 is also identified by a small, raised lump of metal in the right obverse field. The counterfeit identified in the March 1983 issue of *The Numismatist* was patterned after a Position 1 obverse. This same obverse also appears on the counterfeit 1909-S cent described in the February 1982 issue.

The Position 2 obverse usually exhibits a small, raised line above the U in TRUST. This obverse was used on the counterfeit 1909-S VDB cent discussed in the November 1980 issue of *The Numismatist*.

The Position 3 obverse closely resembles the obverse of a genuine 1909-S Lincoln cent. The initials VDB on any Position 1

or Position 3 1909-S VDB cent should be carefully inspected for signs of alteration. The counterfeit identified in the December 1979 issue of *The Numismatist* appears to have a Position 3 mintmark.

Of the four mintmark locations, Position 4 is the most common and is easily identified because the mintmark is the lowest and farthest to the right of the four. As yet, ANACS has not seen a counterfeit 1909-S VDB cent with this mintmark position. A late die state of Position 4 shows a lump of raised metal or "die chip" in the upper loop of the B of LIBERTY, the result of the void caused when a small piece of metal broke away from the die.

Many 1909-S VDB cents have a brassy, streaky or wood-grain appearance, the result of poor quality planchets. These variances in appearance, however, have been noted on genuine, altered and counterfeit cents, and thus can not be used as a diagnostic. Because nearly every characteristic of genuine 1909-S VDB cents has been reproduced on counterfeits, accurate descriptions of every known counterfeit cent are necessary to authenticate these pieces.

Counterfeit 1914-D Cent Still Turns Up

The counterfeit 1914-D cent featured this month is not new. Although it was documented by ANACS in 1978, it still circulates and continues to fool people.

As with most die-struck counterfeits, especially those in worn condition, first appearance is deceiving. Diameter, metal content and weight normally fall within tolerances for genuine mint products. The tip-off is the heavy tooling at the base of Lincoln's bust and in the field behind his shoulder.

The style of the date and mintmark also is slightly off, the most obvious discrepancies being the loop of the 9, which appears to be more open, and the serifs on the mintmark, which are longer than normal.



Counterfeit 1914-D cent.



Genuine. All pieces produced by the Denver Mint for the 1914 period display this style of date and mintmark.



Counterfeit. Wrong style of mintmark and date.



Counterfeit. Heavy tooling at base of Lincoln's bust and in field behind shoulder.

Update on 1922 "No D" Cents



Normal 1922-D Cent: All digits in date display equal strength and sharpness. *IN GOD WE TRUST* and *LIBERTY* are sharp and distinct. Heavy die cracks on reverse.

The 1922 "No D" cent continues to be a most troublesome variety. In the two years since the ANA Certification Service published a die study about 1922 cents (*The Numismatist*, July 1982, p. 1763), well over 1,000 specimens have been submitted for authentication and grading. As a result of in-depth research on the varieties of 1922 cents, we have concluded that changes are needed in the criteria used to certify them.

The main difficulty lies in the circumstances at the Denver Mint that led to the manufacture of the "No D" cent. A total of three dies produced this variety, each of which originally bore a D mintmark and produced normal 1922-D cents. Eventually, die deterioration, die filling and/or die polishing took their toll, and the mintmark gradually disappeared from all three dies.

Relaxed minting standards at the time resulted in the use of dies well beyond their normal limits. In the case of die pairs 1 and 3, each was extremely worn when the mintmark began to disappear. Uncirculated specimens struck from these dies display an overall sharpness indicative of Very Good or Fine coins. Due to the interaction between the dies and planchets, the faces of the dies were slowly disintegrating.

Another factor that came into play was "mint grease," a combination of lubricat-



Die Pair 1: Second 2 in date is weaker than first 2. First T in *TRUST* is smaller and more distinct than remaining letters. *WE* is very mushy. Reverse is very weak, usually with no lines in the wheat ears. Die crack from rim down through O of *ONE*.



Die Pair 2: Second 2 in date is sharper than first 2. All letters in TRUST are sharp. WE is only slightly mushy. Reverse is sharp.

ing oil, dirt and metal filings. Unless quality control is strictly enforced, mint grease will accumulate on the die faces, where it is forced into the smaller crevices on the dies. Evidently, the mintmark areas on die pairs 1 and 3 were filled in by a blob of mint grease, which obliterated all traces of the D mintmark. After a few

hundred coins were struck, the grease became impacted and likely fell out, resulting in coins with a faintly-visible D.

From our studies we have proven that this process of progressive deterioration and die filling repeated itself several times. The mintmark faded in and out continuously as the dies became increasingly worn. In the past, determination of the status of 1922 cents struck from dies 1 and 3 has been a very subjective process.

On worn specimens it is often difficult to determine if the D was never present on the coin or if it simply was worn away through circulation. In addition, some specialists disagree about what constitutes a "Weak D" and a "No D" specimen. Some maintain that a faint trace of the D should be visible on a "No D" cent, while others insist on the complete absence of the D mintmark.

Die pair 2 evolved in a different manner. A pair of slightly worn dies producing normal 1922-D cents clashed together, damaging the reverse die. The obverse die, though worn and marred by the die clash, still was considered usable. Apparently, the reverse die was extensively damaged, perhaps even shattered, and was discarded. The obverse die was removed from the press, reworked and polished, and matched with a new reverse die.

During reworking of the obverse die, sufficient metal was removed from the die face to erase all traces of the D mintmark. Consequently, every specimen struck from this second pair of dies is of the "No D" variety. No subjective judgment is required in determining this variety, as



Die Pair 3: Second 2 in date is weaker than first 2. TRUST is weak but sharper than IN GOD WE. Lower left part of O in ONE begins to spread into field as die deteriorates. Normally struck from slightly rotated dies.



1922 "No D" Cent: Die pair 2, Very Fine condition.



1922 "No D" Cent: Die Pair 2. Very Good condition.

the diagnostics for the die are easily recognized.

Another desirable feature of 1922 cents produced from die pair 2 is their superior eye appeal. Because these coins were struck from a slightly worn obverse die and a new reverse die, they exhibit fairly normal details. Comparison of the coins shown here vividly illustrates this fact.

Faced with the difficulties involved in attributing 1922 cents from die pairs 1 and 3, ANACS no longer will render an opinion on these pieces. When determining authenticity, the Certification Service always has adhered to the basic tenet that proof beyond a reasonable doubt must be supplied. Conclusive evidence exists only for coins produced from die pair 2; similar evidence is definitely lacking for coins struck from die pairs 1 and 3. Considering that the nature of our service does not allow room for subjectivity

or guesswork, ANACS has instituted the following policy concerning 1922 cents:

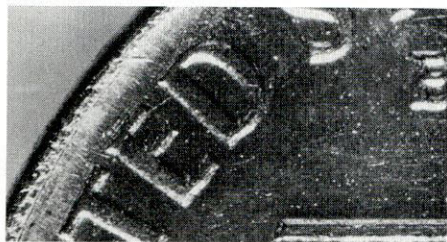
- 1) authentic specimens of 1922 cents from die pair 2 will be certified as genuine 1922 "No D" cents;
- 2) all specimens from die pairs 1 and 3 will be returned as "No Decision." Information about the characteristics of these coins will be included with each coin so returned. ANACS refunds all fees for coins that are returned with no decision;
- 3) ANACS will continue to identify any non-genuine 1922 cents, such as altered or counterfeit pieces, along with specimens not produced from any of the three dies discussed here; and
- 4) previously-certified 1922 cents struck from die pairs 1 and 3 that are resubmitted will be returned with the original ANACS certificate and a note explaining our policy regarding 1922 "No D" cents.

Counterfeit 1972 Doubled-Die Obverse Cent

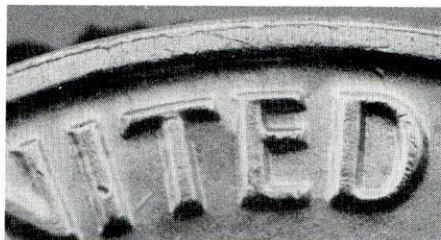
ANACS has seen a new and interesting counterfeit: a 1972 doubled-die obverse cent. The counterfeiter went to great lengths to insure that this piece displayed a small die gouge above the D of UNITED, a diagnostic of genuine 1972 doubled-die obverse cents. However, when compared with the die gouge on the Mint product, the contrived diagnostic on the counterfeit cent is obviously different. The fields between the rim and the motto IN GOD WE TRUST should also be carefully inspected. On a genuine 1972 doubled-die obverse cent, fine raised die polish lines extend from the rim to the fields. The counterfeit cent does not display this characteristic. In addition, details in the doubling of the motto are very weak on the counterfeit piece.



Genuine 1972 Doubled-Die Obverse Cent.



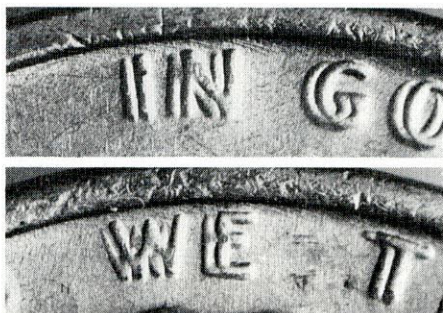
Counterfeit 1972 Doubled-Die Obverse Cent:
Gouge added above the D of UNITED.



Genuine 1972 Doubled-Die Obverse Cent:
Die gouge above the D of UNITED.



Counterfeit 1972 Doubled-Die Obverse Cent:
Lack of detail in doubling of motto.



Genuine 1972 Doubled-Die Obverse Cent:
Raised die polish lines above IN GOD WE TRUST.

Silver-Plated Cents Surface

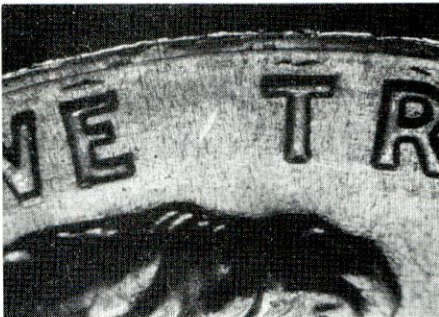
During the early part of this year, ANACS noticed the appearance of highly lustrous Lincoln cents dating from 1982 to 1985. Purported to have been struck on unplated zinc planchets, in actuality the cents in question were regular copper-coated zinc issues that had been silver plated. All silver-plated cents that ANACS inspected were extremely bright and lustrous compared to genuine unplated zinc cents, which exhibit a slightly dull-gray appearance.

Upon visual inspection, many cents showed areas of copper where the silver plating had not adhered to the coin's surface, immediately confirming an altered status. Other silver-plated specimens showed typical surface lumps, which are naturally acquired in the electroplating process when copper is applied to the zinc core of genuine Lincoln-cent planchets. Authentic Lincoln cents struck on unplated zinc planchets would not show these lumps.

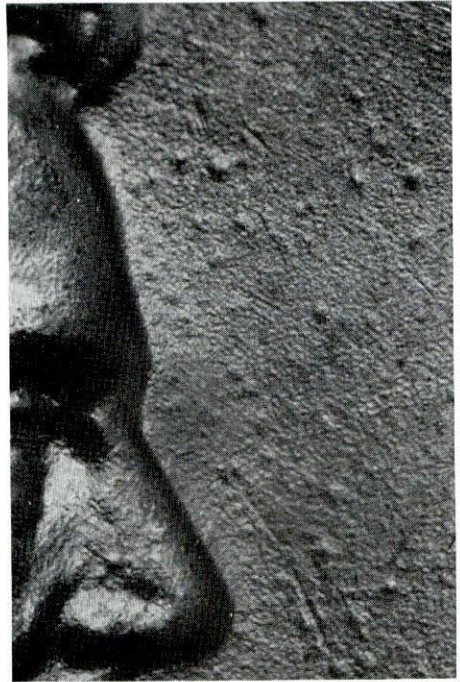
ANACS confirmed the presence of silver plating on the Lincoln cents by analyzing the metallic content of the coins' surfaces with x-ray spectroscopy, which suggested the presence of an alloy of approximately 92-percent silver and 8-percent copper.



Genuine Lincoln cent.



Silver plating in the area above WE TRUST did not adhere to the underlying copper.



A silver-plated cent. The surface lumps typically occur on genuine copper-coated zinc cents as a result of plating. Genuine Lincoln cents struck on unplated zinc planchets do not show these lumps.

1987-D Doubled-Die Cent Surfaces in Midwest

Collectors in the midwestern United States have a new reason to inspect their pocket change—a 1987-D Lincoln cent with a doubled-die obverse recently was submitted to the ANA Certification Service. Even though the doubling is rather minor, especially when compared to 1955, 1972 and 1983 doubled-die cents, it is, nevertheless, legitimate hub doubling.

The first area to check when inspecting a 1987-D cent for doubling is the word LIBERTY. The doubling is most readily visible on the lower right serifs of the E and R. The serifs are distinctly split. As is shown in the accompanying photomicrograph, doubling also is evident on IN GOD WE TRUST, especially inside the upper portion of GOD. Because of the coin's small size and the slight amount of separation between the two hubbing impressions, it is best to examine it under at least 7x magnification.

The mechanics of how a doubled die occurs are explained in the ANA Certification Service column in the August 1987 issue of *The Numismatist*.



Doubling is evident on IN GOD WE TRUST, especially inside the upper portion of GOD.



1987-D doubled-die Lincoln cent.

Counterfeit 1864 Silver Three-Cent Pieces

Recently, the ANA Certification Service had the opportunity to study two similar counterfeit 1864 silver three-cent pieces. The specifications of these spurious coins compared favorably with those of genuine specimens, which weigh .75g ($\pm .032$), measure 14mm in diameter, and have a specific gravity of 10.34.

The key to identifying these counterfeit coins is their soft, granular surface and lack of overall sharpness, caused by the counterfeiter's inability to transfer the crisp image of the genuine article to his die or mold. The rims are rough, and both counterfeits display identical depressions on the obverse, most notably in front of the U in UNITED and above and to the left of the 1 in the date.

When a counterfeiter uses a genuine coin to make a die or mold, any damage on the coin will be transferred to the die or mold in the form of raised lumps. If these lumps are not removed, they will appear as depressions on the struck or cast coin.

ANACS hopes to publish additional information about these interesting counterfeits; however, more specimens must be examined before we can do so. If you have any 1864 silver three-cent pieces matching the description above, ANACS would like to hear from you.



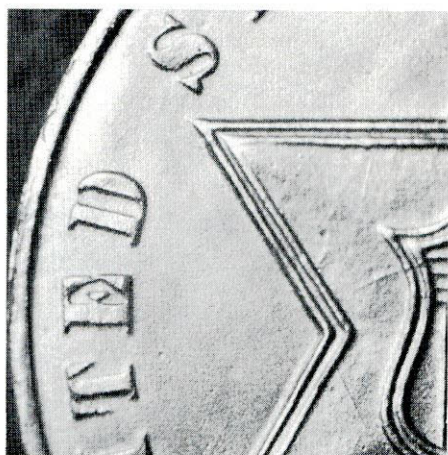
Genuine 1864 silver three-cent piece displays sharp detail.



Counterfeit 1864 silver three-cent piece, specimen #1. Numerous depressions appear throughout coin's surface.



Counterfeit 1864 silver three-cent piece, specimen #2. Depression to left of U of UNITED is like that on counterfeit specimen #1.



Letters on counterfeit #1 lack detail.

Rim of counterfeit #1 is rough (left).



Date on genuine specimen (center) is much sharper than that on counterfeits #1 and #2 (left and right, respectively). Various depressions surround the date on counterfeit #1.

More High-Quality Alterations Surface

Recently inspected by the ANACS staff was an extremely deceptive group of added-mintmark Buffalo nickels, consisting of a 1921-S, 1924-S, 1926-D and 1926-S, all in Uncirculated condition. The style of the added mintmark on each coin is virtually indistinguishable from that of a genuine mintmark. The method of alteration was very precise, as no trace of a "seam" could be found under normal stereoscopic magnification.

To prove these pieces were altered, it was necessary to consult ANACS' micro-photography file, which records thousands of genuine die characteristics. Die polish marks and die cracks on the suspected



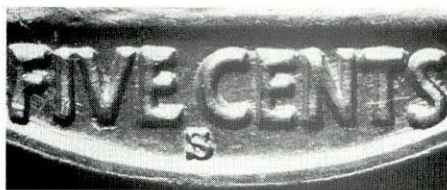
Altered 1924-S Five-Cent Piece.

coins were matched with similar marks on genuine Philadelphia Mint five-cent pieces. The suspicions were confirmed when comparison revealed two or more matching diagnostics. No two genuine U.S. dies have identical die polish because all dies are polished by hand.

A more subjective method was also used during examination of the coins. Most specialists will agree that Philadelphia Mint issues differ obviously in appearance from issues produced by branch



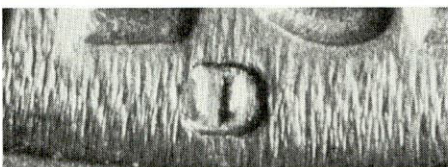
Altered 1921-S Five Cents: Added S mintmark resembles genuine style of the period. Die polish marks above date are characteristic of genuine 1921 Philadelphia pieces.



Altered 1924-S Five Cents: Area around date displays die polish marks characteristic of genuine 1924 Philadelphia issues. Reverse displays proper mintmark style and die polish marks.



D and S mintmark styles of genuine five-cent pieces issued during the 1920s.



Altered 1926-D Five Cents: Die cracks above FIVE CENTS characteristic of genuine 1926 Philadelphia dies. Note die erosion does not effect mintmark—a sign of alteration.



Altered 1926-S Five Cents: Fine die polish marks characteristic of genuine 1926 Philadelphia issues. Detail of area around added mintmark.

Altered 1926-D Five Cents: Die cracks above FIVE CENTS characteristic of genuine 1926 Philadelphia dies. Note die erosion does not effect mintmark—a sign of alteration.

Altered 1926-S Five Cents: Fine die polish marks characteristic of genuine 1926 Philadelphia issues. Detail of area around added mintmark.

minits. In the 1920s the Denver and San Francisco Mints had serious problems with quality control. Typical Buffalo nickels produced by branch mints during this period were poorly struck from worn, eroded dies. Subtle differences in lustre, striking characteristics and surface quality indicate which branch mint produced the coin and thus which mintmark should appear on its surface. If the overall appearance of a coin suggests it is a Philadelphia Mint product, the presence of a D or S mintmark instantly should arouse suspicion. As has been mentioned numerous times in the past, it is imperative to study the entire coin when trying to determine its authenticity.

The method of alteration used for the coins illustrated here is a refined version of a familiar technique. A microscopically thin metal base is attached to the face of the coin, presumably using one of the new "super glues," to provide a smooth surface on which to adhere the mintmark. The base is then polished to create a plateau effect and blend its edges into the field of the coin. The mintmark is then attached to the base and lightly smoothed over, again to help it blend into the field. The source of the mintmarks is most likely a common-date Buffalo nickel of the same time period, such as a 1928-D or 1928-S. Because of the painstaking work involved in producing these altered pieces, it is doubtful that a large number will surface; the "technician" apparently prefers quality to quantity.

Diagnostics of Genuine 1982 "No Mintmark" Dimes

The 1982 "No Mintmark" dime has become a much sought-after variety since its discovery a few months ago. ANACS has yet to see an altered specimen, but it is only a matter of time until one appears. Fortunately, the genuine piece has a number of easily recognizable diagnostics.

Dies used to strike the "No Mintmark" dimes were heavily polished by Mint workers during die preparation. Genuine specimens display all of the following characteristics:

1. A slanting die polish mark on Roosevelt's forehead.
2. A slanting die polish mark in the hair just above the forehead.
3. Thin die polish marks from Y in LIBERTY to the hair, and from the bottom of RT to the forehead.
4. A heavy die polish mark through the upright portion of L in LIBERTY.
5. Heavy die polish marks throughout the reverse.

Die polish marks are the result of normal die preparation. The surface of the die is polished with an abrasive substance that tends to leave light scratches on the die. These incuse marks on the die's surface result in raised die polish marks on the coin. All coins struck from that die bear identical marks, changing in appearance only when the die becomes worn or is removed from the press and repolished.

Two die cracks also have been observed on the 1982 "No Mintmark" dime. A die crack on the reverse appears at the bottom of the torch handle; the obverse features a crack that runs from the rim at the one o'clock position down into the hair. As with die polish marks, dies cracks appear as raised metal on the coin. Because of the extreme force involved in striking modern coinage, die cracks are common and usually increase in length with die usage, until eventually the die shatters.

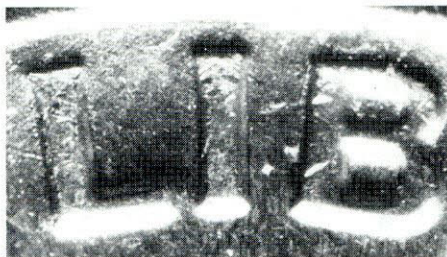
However, the die cracks appearing on the 1982 "No Mintmark" dime should not be used as diagnostics, as genuine specimens have been recorded with none, one or both cracks. In addition, dies often



Genuine 1982 "No Mintmark" dime. Die cracks appear at rim at one o'clock position on obverse and at base of torch on reverse.



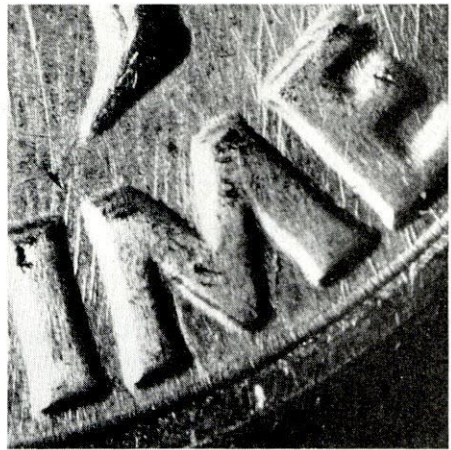
Die polish marks on upper forehead and in hair.



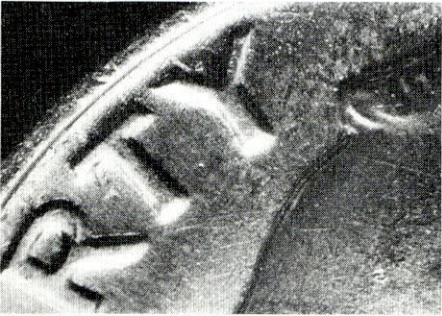
Slanting die polish mark through upright portion of L in LIBERTY.

crack repeatedly at points of design-induced weakness, and thus similar die cracks can appear on other dies. Die polish marks are by far the most reliable diagnostic of the "No Mintmark" dime.

The result of human error, the "No Mintmark" variety was created when Mint operators failed to punch the die during preparation. Additional dies also may not have received a mintmark, but no coins from these dies have appeared as yet. A purported 1982 "No Mintmark"



Heavy die polish marks around torch and IME of DIME.



dime that does not display the die polish marks pictured here should be examined carefully for signs of alteration.

Photographs of these diagnostics, plus a wide range of other photographic information, can be obtained from the ANA Photography Department.

Die polish marks between RT of LIBERTY and forehead. Die polish mark from right arm of Y to top of hair.

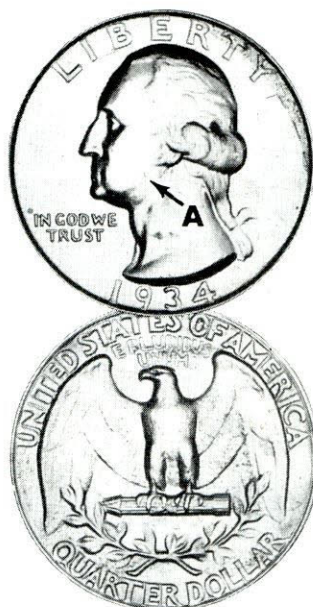
Counterfeit 1934 Quarter Displays Classic Diagnostics

One of the newer counterfeits to surface in recent months is a 1934 Washington quarter. Originally seen in the fall of 1985, the piece was offered for sale in quantity, thus a number of them may still turn up in the marketplace.

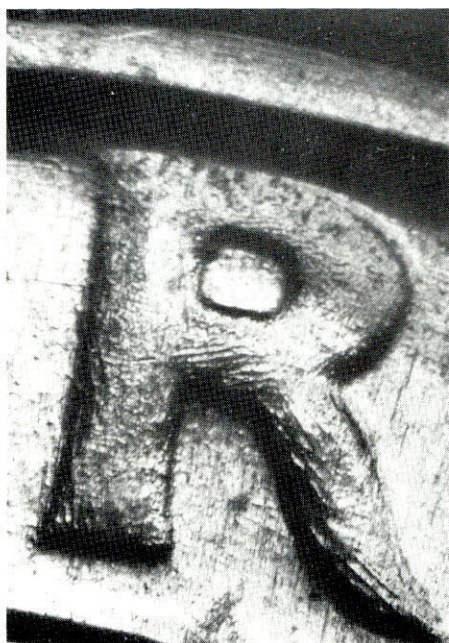
The old saying "Too good to be true" accurately describes this counterfeit quarter, which displays exceptional quality. The edge has the look of a proof; the surface is well-struck with a rich, satiny appearance.

A genuine 1934 quarter dollar is 90-percent silver/10-percent copper and weighs 6.25g ($\pm .097$ g). Although the counterfeit quarter's specific gravity is the same as that of the authentic item (10.33), its weight differs from specimen to specimen, some exceeding tolerance by as much as .095g (none of the counterfeits examined by ANACS have fallen below tolerance).

Like many counterfeits, this piece displays classic diagnostics, such as depressions, tooling and raised metal.



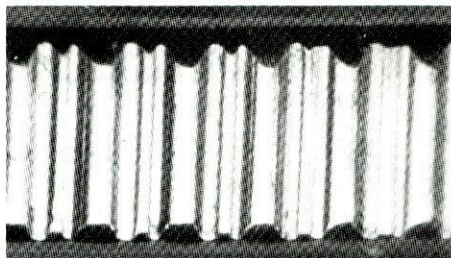
Counterfeit 1934 Washington quarter.



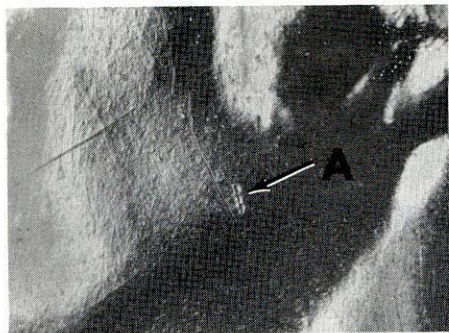
Tooling on R of LIBERTY.



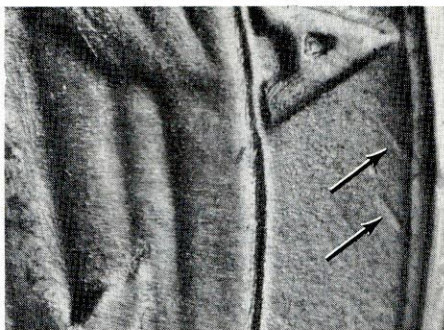
Raised lines of metal extend from left and right of B of LIBERTY.



Sharp edge resembles that of proof coinage.



Depression in Washington's jawbone resembles bagmark.



Two light depressions on reverse extend diagonally from rim near last A of AMERICA.

Quarters

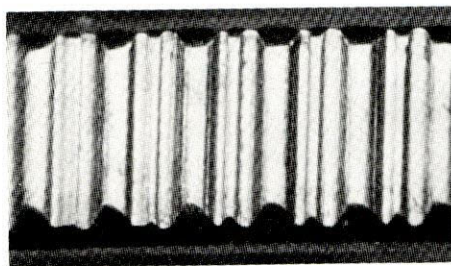
Counterfeit 1932 Quarter Employs Reverse of Counterfeit 1934 Specimen

Several years ago counterfeit 1934 quarters began to surface at coin shows and since have been well documented, appearing in the June 1986 ANACS column in *The Numismatist* ("Counterfeit 1934 Quarter Displays Classic Diagnostics," pp. 1173-74), as well as in the ANA's *Counterfeit Detection Reports* (Series III, No. 15). The reverse die of this counterfeit now has been paired with a 1932-dated obverse die.

To date, only one example has been studied by the ANA Certification Service staff, but all of the diagnostics previously reported for the reverse are plainly evident. Most obvious of these is a depression on the lower half of the right leg of the eagle, which can be seen without magnification. In addition, two shallow, diag-



Reverse die of 1934 counterfeit quarter has been paired with 1932-dated obverse die to create a new counterfeit.



Edge reeding on counterfeit 1932 is too sharp for business strike quarter of this era.

onal depressions extend into the field from the inner rim at 3 o'clock, just below the final A of AMERICA.

The obverse of the new 1932 counterfeit features a small area of raised lines between the top right of the 3 in the date and the bottom of Washington's bust. Other diagnostics on the obverse must be compared with a second example before they can be published.

As stated in the aforementioned article and report about the 1934 counterfeit, the edge reeding is much too sharp for a business strike quarter of this era. On every



Raised lines between top right of 3 in date and bottom of Washington's bust.

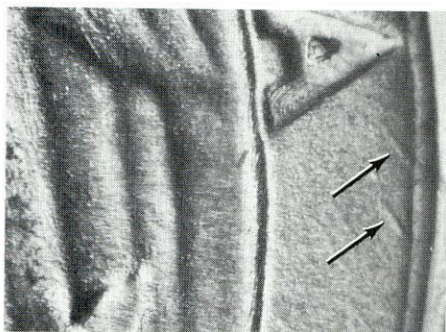
counterfeit Washington quarter seen thus far, the edge is a giveaway, especially when viewed side by side with a genuine specimen. Also, the counterfeit's smooth, satiny luster is a bit unnatural.

A number of small nicks and scratches, as well as artificial toning, were evident

on the 1932 counterfeit recently examined by ANACS. Obviously the counterfeiter attempted to disguise the diagnostics on his product. Collectors should carefully inspect early Philadelphia Mint Washington quarters for the characteristics described above.



Depression on lower half of right leg of eagle can be seen without magnification.



Two shallow, diagonal depressions extend into field from inner rim at 3 o'clock, just below final A of AMERICA.

Counterfeit 1796 Half Dollar Discovered

A high-grade 1796 half dollar recently was submitted to the ANA Certification Service for an opinion. Upon visual inspection of the coin, the authenticators' suspicions were aroused. A quick check of the coin's weight and specific gravity confirmed their doubts about the piece's authenticity, as both determinations were well outside normal mint tolerances.

Unlike most new counterfeits, which generally are die-struck, this example appears to be an excellent cast copy, evidenced by the large number of tiny pits on its surface. The workmanship is virtually identical to two other counterfeits of early U.S. coins—a 1796 quarter dollar and a 1797 half dollar. (The 1796 quarter counterfeit was reported in the October 1982 issue of *The Numismatist*.)

Both the obverse and reverse of this specimen exhibit a large number of "lint



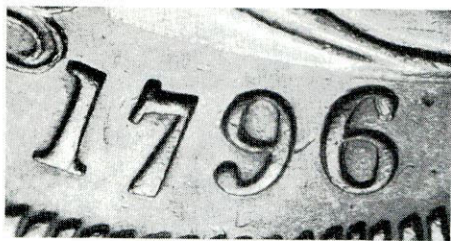
Raised metal along Liberty's profile. Note light scratches in front of nose.



Counterfeit 1796 half dollar. Diagnostics suggest the piece was cast rather than die-struck.

marks," which normally occur when a thread falls between the planchet and the die face. The thread is pressed into the surface of the coin during the striking process, usually falling out afterward and leaving behind a small depressed line on the coin's surface. "Lint marks" are most common on 19th-century proof coins, as proof dies frequently were wiped with cloths during production. Such marks, however, are not commonly seen on 18th-century U.S. coins.

Another diagnostic of this counterfeit is the considerable amount of microscopic raised lumps of metal on the surfaces, many of which are found at the junctures of raised devices or letters and the field. Several letters appear to have been lightly tooled in an attempt to smooth out these areas. Most likely these lumps resulted from a less-than-perfect transfer process



Light surface pitting around date.

between the original model coin and the casting molds, although they also might be caused by verdigris on the model coin.

As mentioned, the most condemning evidence against this coin is its weight and specific gravity. A genuine 1796 half dollar in similar condition weighs approximately 13.48g and has a specific gravity of 10.3. The counterfeit specimen has a weight of 12.47g and a specific gravity of 11.4. The latter figure is quite revealing, particularly because pure silver has a specific gravity of only 10.5.

ANACS believes this cast was made of a mixture of gold, silver and copper, the gold accounting for the higher specific gravity. Presumably this mixture was employed by the counterfeiter to improve the "ring" of his cast copies. When tapped on its edge, a typical cast counterfeit emits a much duller, shorter ring than a genuine die-struck coin (see "Distinguishing Replicas from Counterfeits," September 1986).

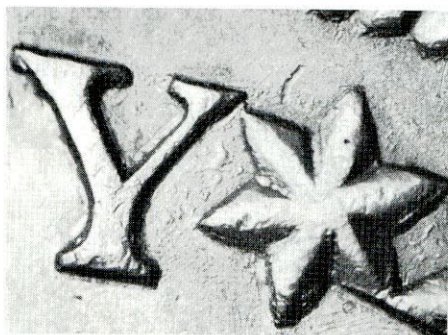
The coin used to produce this counterfeit is obviously a high-grade specimen. Because the 1796 half dollar is extremely rare, it should be possible to find the genuine coin that was used to make the counterfeit molds. If anyone can identify and/



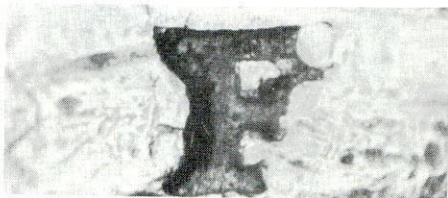
Planchet flaw through UNI of UNITED; probably present on model coin.

or locate this coin, please contact the ANA Certification Service. Perhaps the counterfeiter can be traced through the coin's pedigree (he still may be actively practicing his craft!). If you can help, please write to ANACS, File #1796, 818 North Cascade Avenue, Colorado Springs, CO 80903-3279. All information will be kept in strictest confidence.

ANACS urges all numismatists to carefully scrutinize their early U.S. material. Those pieces with unusual characteristics should be subjected to additional testing or submitted for certification. The ANA Certification Service does not recommend heavy reliance on pedigrees; in the past six years the counterfeit half dollar illustrated here has appeared in two major auctions, prior to which it resided in a rather famous collection.



Tooling around periphery of Y in LIBERTY. Raised metal between Y and star.



Raised metal on upper serif of F in HALF in edge lettering.



Light surface pitting around denomination.



Concentration of "lint marks" on Liberty's neck.

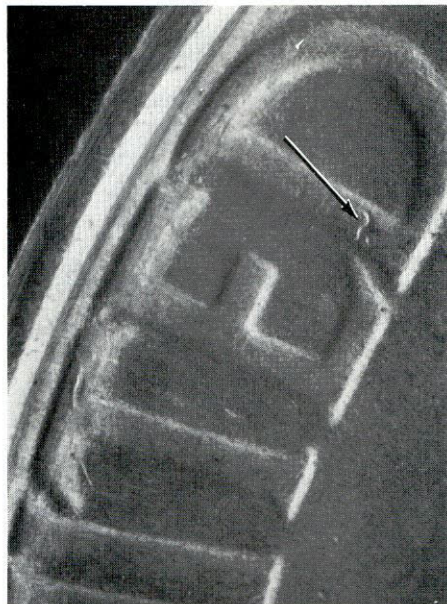
Numerous Flaws Mark Counterfeit 1937 Antietam Commemorative



Counterfeit 1937 Antietam commemorative half dollar.

With the new interest recently generated in the area of U.S. commemorative coinage, collectors should be aware of deceptive counterfeit 1937 Antietam commemorative half dollars. These bogus specimens originally were reported in 1980 but could resurface to take advantage of the new collectors/investors entering today's marketplace.

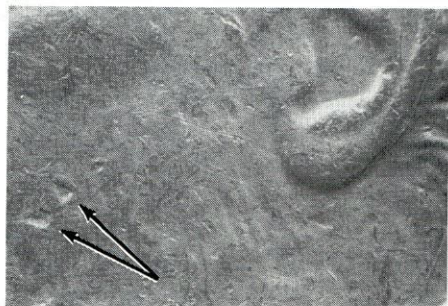
One tip-off that betrays the authenticity of the counterfeit is luster. Upon initial inspection, the piece appears to be over-dipped; luster is present but is "washed



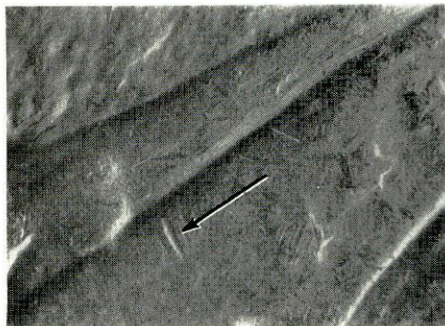
Depression on D of UNITED.

out" and exhibits a dull gray color, which is quite unlike the brilliant "cartwheel" luster usually apparent on genuine Antietam commemoratives.

Although the counterfeit boasts numerous flaws, outstanding diagnostic features are slight, and a good magnifying glass is recommended for close inspection. Some of the more noticeable diagnostics on the obverse include a depression on the lower portion of the vertical shaft of the D in UNITED; a series of reed marks in the middle of General Lee's cheek; a diagonal depression on the top edge of Lee's coat collar, just to the right of his tie; and a



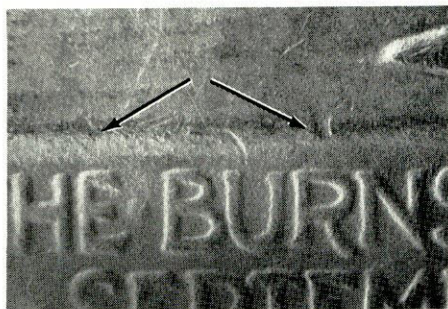
Depressions on General Lee's cheek.



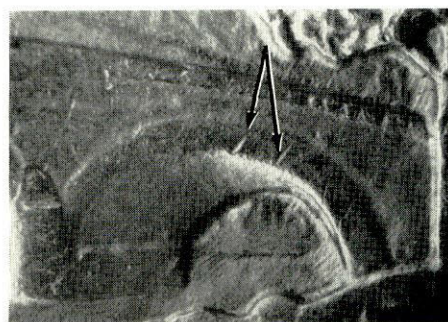
Depression on edge of collar.



Raised metal through TES of STATES.



Depressions above E of THE and R of BURNING.



Depressions on arch of Burnside Bridge.

raised line through TES of STATES. Other raised lines are present around the T of UNITED, the E of AMERICA, and the A of DOLLAR.

The reverse of the counterfeit 1937 Antietam commemorative displays depressions below the first A of ANNIVERSARY; on the lower edge of the river; above the E of THE and the R of BURNING; and on the right arch of the Burnside Bridge. An obvious raised line of metal extends through ERSAR of ANNIVERSARY, and other lines occur around the E of BATTLE, the IE of ANTIETAM, the VE and Y of SEVENTY, and the IFT of FIFTH.

Despite its flaws, this counterfeit can still deceive the careless or unknowledgeable collector or dealer. Therefore, it is imperative to carefully inspect not only the coins, but also the reputation of the individual with whom you are dealing. Above all, arm yourself with a knowledge of the coins you wish to purchase.



Raised metal through ERSAR of ANNIVERSARY.

New Counterfeit Commemoratives

Six U.S. commemorative half dollar counterfeits recently were studied by the ANACS staff—a 1915-S Panama-Pacific, a 1921 Missouri, a 1925 Fort Vancouver, a 1928 Hawaii, a 1935 Hudson and a 1935 Spanish Trail. All display a similar style, with sharp edge reeding, fuzzy details and incorrect lustre. In a side-by-side comparison with genuine specimens, the counterfeit pieces are not difficult to detect. However, they are deceptive enough to fool numismatists not well-acquainted with characteristics of genuine coins.



Counterfeit 1915-S Panama-Pacific half dollar.



Genuine 1915-S/S Panama-Pacific half dollar. Crisp date and mintmark, numerous die polish lines. One of three known obverse dies, two of which have repunched mintmarks.



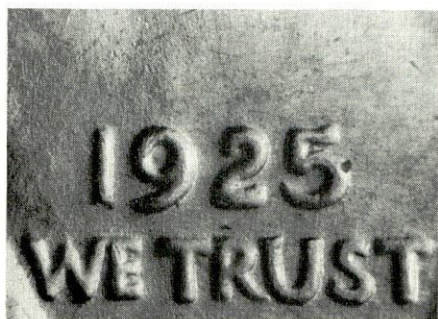
Counterfeit 1915-S Panama-Pacific half dollar. Lack of die polish, poor detail.

In general, the commemorative half dollar series is notable for heavy die polish, which is exhibited by raised lines on the surface of the coin caused by scratches in the die. Unlike lightly polished production dies, many commemorative half dollar dies were severely scrubbed with abrasives, leaving numerous scratches on the die face. This resulted in heavy concentrations of die polish lines on coins struck from these dies. None of the counterfeit half dollars shown here exhibit the usual amount of die polish lines characteristic of genuine specimens.

The lustre on these counterfeits is another giveaway. Quite unlike genuine coins, each exhibits a glossy sheen, which is similar to the lustre on Mint State silver coins that have been lightly polished. What makes these new counterfeits potentially dangerous is the fact that light circulation or artificial toning could disguise this diagnostic.



Counterfeit 1921 Missouri half dollar. Cheek, jaw area and fields slightly rough.



Genuine 1925 Fort Vancouver half dollar. Good definition of date and lettering. Crisp die polish lines throughout.



Counterfeit 1925 Fort Vancouver half dollar. Rounded date and lettering. Numerous raised lumps of metal.



Counterfeit 1925 Fort Vancouver half dollar. Surfaces covered with tiny, raised "pimples."



Counterfeit 1935 Hudson half dollar.
Depression on left half of O of OF in CITY OF HUDSON. Light tool marks below depression.



Counterfeit 1928 Hawaii half dollar.



Counterfeit 1935 Hudson half dollar.



Counterfeit 1935 Spanish Trail half dollar.



Genuine 1935 Spanish Trail half dollar. Crisp die polish lines above 1535.



Counterfeit 1935 Spanish Trail half dollar. Rounded numerals in 1535, no die polish lines.

Commemorative Coins

Building a Case: Genuine or Counterfeit?

ANACS does not declare coins to be counterfeit, altered or genuine based on just one diagnostic. Rather, it tries to "build a case" for or against the coin in question, taking into account the appearance of the obverse, reverse and edge. General characteristics of genuine coins considered in certification include lustre, die polishing, die cracks, die clash marks, metal flow, sharp details, and mintmark shape and position. If a coin is suspected to be counterfeit, ANACS looks for depressions, signs of tooling, spikes from die gouges, odd lustre, portions of raised



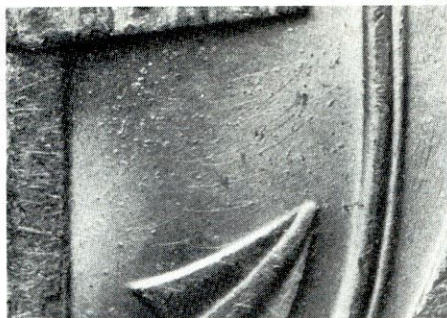
Genuine 1936-D Rhode Island commemorative half dollar.

metal, peculiar metal flow and mushy details.

Collectors should bear in mind that all the aforementioned characteristics of genuine coins occasionally are seen on counterfeit pieces. Conversely, characteristics of counterfeit coins have appeared on genuine coins. Thus, it is important to take into account all information when building a case for a coin's authenticity.

A prime example of the importance of considering all diagnostics is the 1936-D Rhode Island commemorative half dollar. Numismatists often declare some specimens of this coin to be counterfeit because of the appearance of numerous raised lumps of metal on the coin's surface. Although this diagnostic is characteristic of some counterfeits, it should not be used as the sole criteria for condemning this or any other coin. ANACS has examined several specimens originally purchased from the Mint in the year of issue and has found the same surface condition. In this instance, the lumps of raised metal may have been caused by rusted dies.

Of course, the 1936-D Rhode Island



Die polish marks and die rust under crossbar of anchor on reverse.



Heavy die rust around characteristically sharp mintmark.



Die polish marks and die rust on obverse figure of Roger Williams.



Commemorative coins often show extensive die polishing. An excellent example is the 1922 Grant commemorative half dollar with star, which features heavy die polish marks around the date.

commemorative also shows a number of genuine characteristics, such as good lustre, correct mintmark shape, well-defined detail and extensive die polishing. Evidence of considerable die polishing is a characteristic common to many gold and silver commemorative coins and is sometimes a major factor in determining authenticity.

1895 Proof Dollar Die Study



1895 proof dollar.



Obverse Die 1: Numeral 1 in date to left of center over denticle. Left base of 1 over right half of denticle, right base of 1 over left edge of denticle. Lower part of 1 shows repunching. Ball of 5 over right half of denticle. Date slants up slightly to the right.



Obverse Die 2: Numeral 1 in date centered over denticle. Left base of 1 over right edge of denticle, right base of 1 over left edge of denticle. Ball of 5 over right edge of denticle. Upper part of 5 shows repunching. The 9 on all specimens observed displays a filled lower loop. Date slants up to the right.

Authentication of circulated or heavily impaired 1895 Proof dollars can be a difficult task, particularly since this type of coin usually does not show diagnostic die polish lines. In addition, circulation marks and other damage around the mint-mark area can hide possible alterations. However, one diagnostic remains visible, even on specimens graded as low as Good—date position.

At the end of the 19th century, dates still were hand-punched into the dies by Mint employees. Consequently, individual dies can be differentiated by minute differences in location of the numerals over the denticles. In his book *Walter Breen's Encyclopedia of U.S. and Colonial Proof Coins, 1711-1977*, Walter Breen lists two date positions for the 1895 Proof dollar. Considering the low mintage for that year (880 pieces), one would assume that no more than two dies would have been used. Hoping to confirm this, ANACS spent a few hours studying photomicrographs of 1895 Proof dollars.

However, we recorded not two but *four* obverse dies. Each was significantly different from the others, assuring that camera angles or unusual lighting were not responsible for the variations of date positions. Having established photographic evidence that four obverse dies were used, the next step was to confirm each die through physical examination of a number of 1895 Proof dollars.

While attending the Florida United



Obverse Die 3: Numeral 1 in date to right of center over denticle. Left base of 1 over right edge of denticle, right base of 1 over left half of denticle. Ball of 5 above space between denticles. Date slants up to right.

Numismatists and Long Beach shows, an ANACS authenticator inspected every genuine 1895 dollar he could locate, confirming three of the four dies. A specimen struck from the fourth die surfaced at ANACS a few weeks later, thus completing the set. The coins used to confirm the four dies were unquestionable Proofs, exhibiting full Proof characteristics and unimpaired surfaces.

The use of date position by itself is not a fail-safe method of authenticating 1895



Obverse Die 4: Numeral 1 in date well to right of center over denticle. Left base of 1 over left edge of denticle, right base of 1 over center of denticle. Ball of 5 above space between denticles. Date is level.

Proof dollars. Several 1895-O and 1895-S varieties have date positions that are virtually identical to those illustrated here. Questionable 1895 Proof dollars should be carefully inspected for signs of metal disturbance in the mintmark area. Also, check for Proof characteristics, such as fully-rounded edge reeding, squared-off rims, and remnants of mirror surfaces in protected areas of the coin. Seriously damaged or lower-grade pieces should be inspected by an expert.

1896-O \$1 Cast Counterfeit

Most cast coins exhibit a crude, poorly defined appearance; however, the appearance of this cast counterfeit is reasonably well defined. Diameters frequently differ between cast pieces and genuine mint products, with the counterfeit measuring slightly smaller.

Specific gravity testing of this particular cast counterfeit indicates a metallic composition of 90-percent silver and 10-percent copper, which is also the composition of genuine dollars of this type.

When comparing a genuine 1896-O dollar and cast counterfeit side by side, the counterfeit displays a soft, granular effect and rounded numerals. The texture does not vary, giving the appearance of an acid-treated coin.

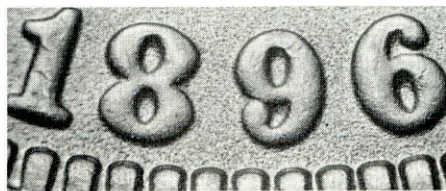
The genuine \$1 piece exhibits a strong strike, with contrast between the field and date. The bow on the reverse shows crisp die polish, which normally is lost in the process of making a cast coin.



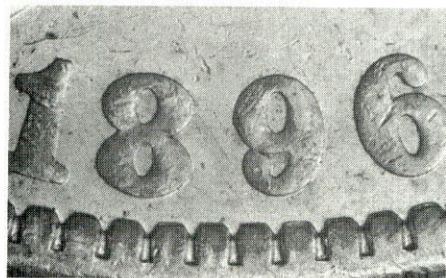
1896-O \$1 cast counterfeit.



Bow on reverse of genuine piece shows crisp die polish.



Date on counterfeit is soft and displays overall granular effect.



Genuine 1896-O \$1 exhibits strong strike and good contrast.

Altered 1904-S Dollar Displays Uncommon Technique

An interesting and unusual coin examined by the ANA Certification Service was an altered 1904-S dollar. Authenticators immediately realized that the piece was not typical, but a second look was necessary to determine exactly why it was unusual.

By all appearances it was an authentic coin, and its weight was well within tolerance of the genuine mint product. There was no trace of a seam at the mintmark, suggesting that it had not been added. However, the mintmark was not the style of 1904 but that of earlier dollars (1879-1900).

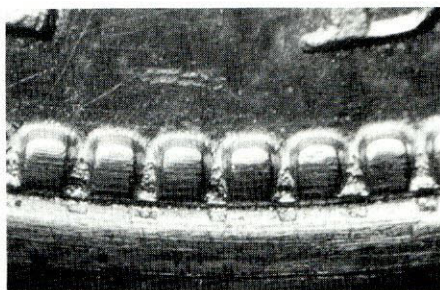
Skillfully, the reverse of a 1904-O dollar was hollowed out and the reverse of an S-mint dollar of the 1879-1900 period artfully set in its place, creating the 1904-S piece. The seam where the obverse and reverse were joined was well hidden in the denticles along the rim.



S mintmark is the genuine style and product of the U.S. Mint but is medium-size and rounded with pointed serifs, characteristic of 1879-1900 dollars.



Altered 1904-S dollar.



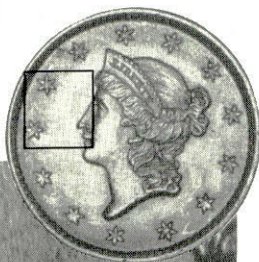
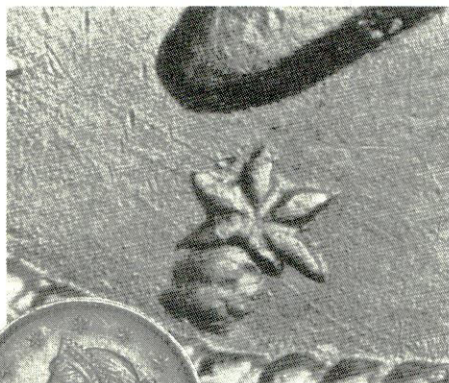
Seam through denticles along rim on reverse.

Characteristics of Genuine \$1 Gold

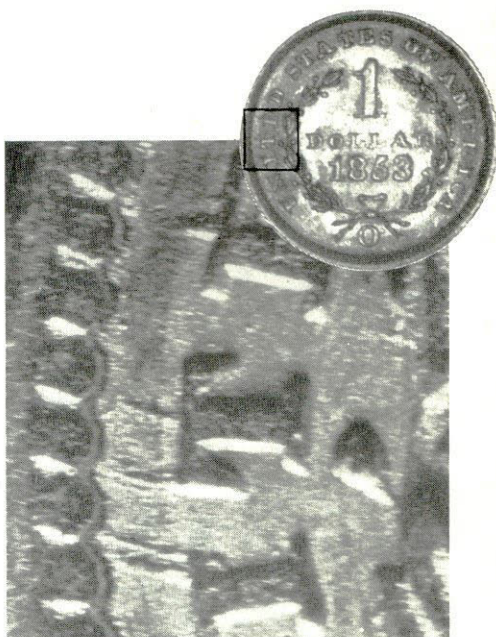
The first and most important principle of authenticating coins is knowledge of the characteristics of genuine specimens. The following illustrated coins—all genuine—sometimes raise questions because they exhibit characteristics not normally associated with authentic pieces.

Space prohibits identification of every die used for the coins illustrated below.

1852 \$1: Genuine. Extra metal at first star.



1853 \$1: Genuine. Raised lines of metal throughout field.



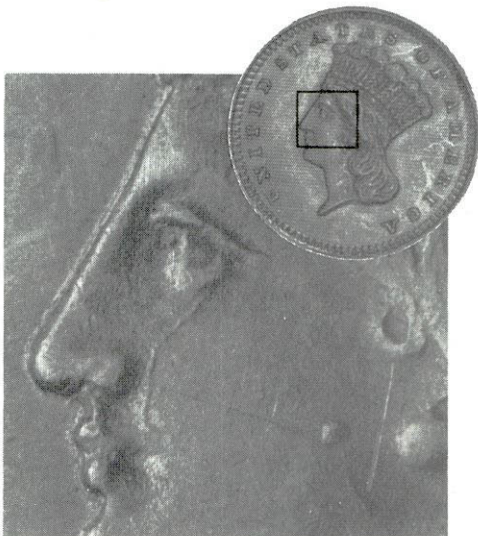
1853-O \$1: Genuine. Raised lines of metal running from rim to legend.



1854 \$1, Type 2: Genuine. Shows roughness in field as a result of die clashes.



1854-D \$1: Genuine. Excessive die polish.



1870 \$1: Genuine. Raised, wormy line extending from corner of eye to upper lip. Lump of raised metal to left of ear lobe.



1870 \$1: Genuine. Die gouge running diagonally from above ear through hair. This obverse also is found on 1869 and 1871 \$1 gold pieces.

1873 \$1: Genuine. Die gouge running from ear lobe to base of neck.

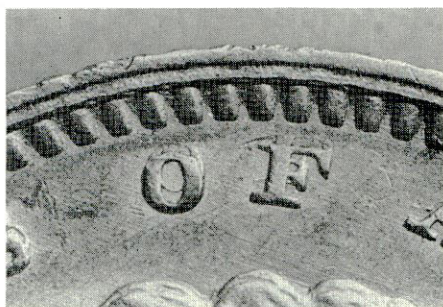




1849-O \$1: Doubled-die reverse shows lumps of metal around UNITED.



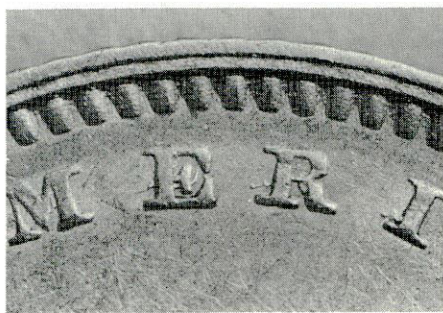
Genuine 1862 \$1 piece.



1862 \$1: Doubling of OF.



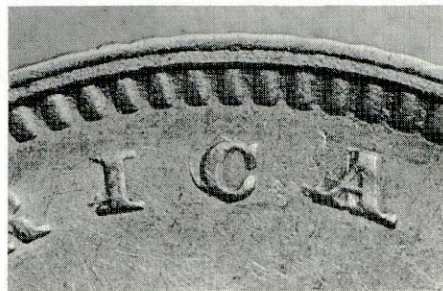
1849-O \$1: Reverse exhibits doubling of ME in AMERICA.



1862 \$1: Doubling of MERI in AMERICA.



1853-O \$1: Die erosion line above second T in STATES.



1862 \$1: Doubling of ICA in AMERICA.

Characteristics of Genuine \$2½ Gold

Knowledge of the diagnostics of genuine specimens is by far the most important aspect of authenticating coins. However, sometimes genuine coins exhibit characteristics not usually associated with authentic pieces. Such was the case with the genuine \$1 gold pieces discussed in last month's column. Likewise, \$2½ gold coins can be equally confusing.

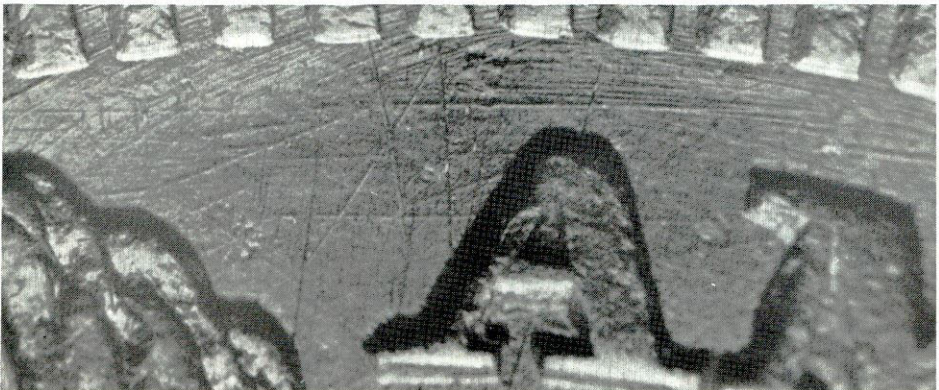
If a \$2½ gold piece in your collection lacks the characteristics of the genuine coins illustrated here, you should not automatically assume that your specimen is counterfeit, as other genuine dies may have been used.



1900 \$2½: Genuine. Raised, wormy line at nape of Liberty's neck.



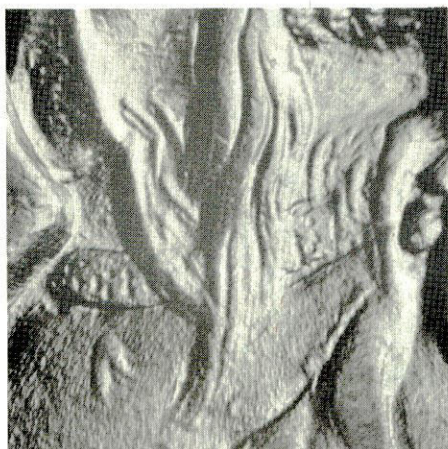
Genuine 1900 \$2½ gold piece.



1900 \$2½: Genuine. Excessive die polish throughout reverse legend.



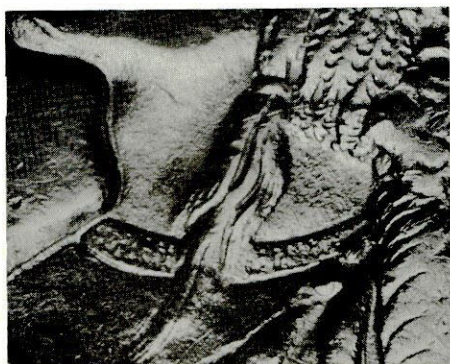
Genuine 1908 \$2½ gold piece.



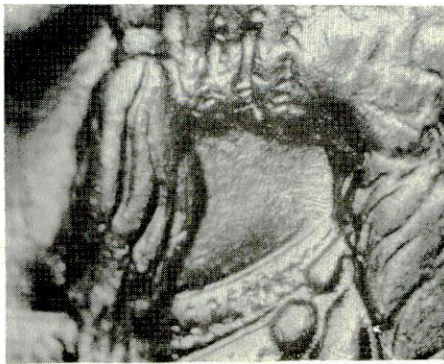
1908 \$2½: Genuine. Die-clash marks at Indian's neck.



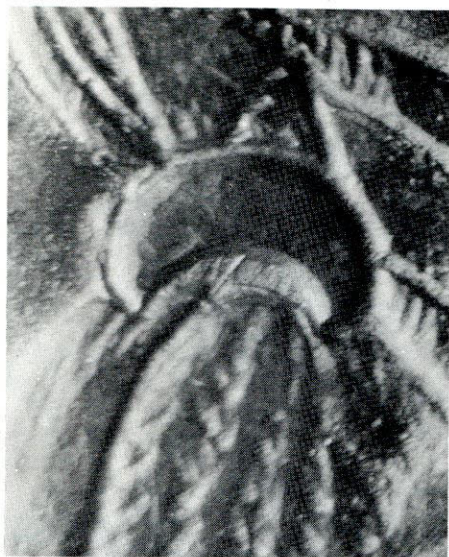
1908 \$2½: Genuine. Incuse line running horizontally through date, a characteristic of all genuine 1908 \$2½ pieces.



Genuine. Die flow is apparent in neck area.



Counterfeit. Tool marks at back of neck.



Genuine. Die polish lines evident below crescent in headdress.



Genuine. Indian's face exhibits crisp die polish and die flow.



Counterfeit. Lack of die polish and die flow in face.

Genuine \$2½ Indians exhibit clear die flow, which results from the extreme pressure used to strike the coins. Clearly visible in the recessed area at the back of the Indian's neck, die flow is one of the most obvious diagnostics of genuine pieces. However, it alone does not prove authenticity, as many counterfeits are die-struck and may show some die flow.

A second major diagnostic is the presence of die polish. Most is worn off the dies within a few strikes; consequently, clear die polish is the exception rather than the rule. Visible die polish is hard to find on the incuse Indian design, especially if you don't know where to look.

Die polish generally is apparent in the recesses at the periphery of the design elements. On the obverse, this includes the recessed areas surrounding the Indian, the crescent in the headdress, and sometimes the date and LIBERTY. Common areas for hidden die polish on the reverse are the recesses surrounding the eagle and those in front of the eagle's left leg and between its breast and right wing.

Most counterfeit \$2½ Indian coins are of high quality and should not be taken lightly. A few \$2½ Indian counterfeits from foreign countries are produced solely for jewelry applications and are of poor quality. Though some forgeries are detected easily, the typical \$2½ Indian counterfeit is most deceptive.

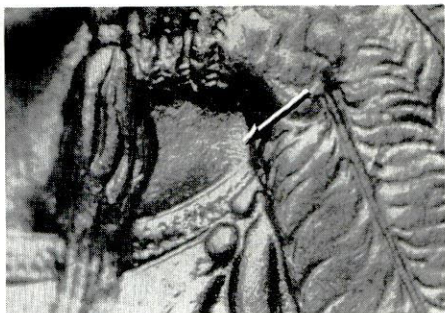
The majority of bogus \$2½ Indians have sharp detail, often close to mint quality. Any loss of detail is hidden by cleaning, polishing, whizzing or, most often, by the addition of features meant to give the appearance of wear from circulation (usually accomplished by turning counterfeits in a rock tumbler to simulate characteristics associated with genuine circulated pieces).

Regardless of the method, the highest points on these counterfeits are worn away by the counterfeiters, eliminating even the slightest weakness in the design. Many counterfeits are seen in grades of extremely fine or about uncirculated, and some pieces may show the wear associated with extremely fine but have uncirculated luster, a result of using a circulated coin as a model for counterfeit dies.

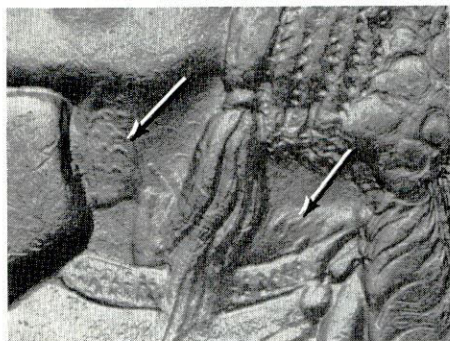
Although counterfeiters may go to great lengths to make quality forgeries of \$2½ Indians, they cannot reproduce the coin without error. Tooling marks are the most



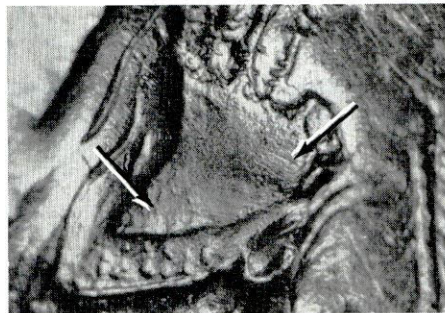
Genuine 1911-D \$2½: Die flow and crisp detail are typical of genuine specimens.



Counterfeit 1914 \$2½: Indian's neck exhibits tool marks and lack of die flow. Details of necklace are not sharp.



Genuine 1908 \$2½: Sharp die clash in Indian's neck and throat.



Counterfeit 1908 \$2½: Heavy tooling at back of neck. Piece duplicates a portion of die clash of genuine specimen but lacks detail.



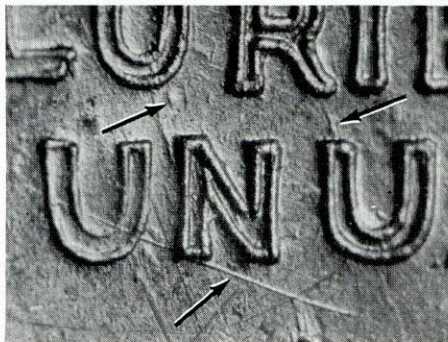
Counterfeit 1911 \$2½: Indian shows tooling marks below nose. This obverse has been muled with both Philadelphia and Denver reverses.



Counterfeit 1928 \$2½ Indian gold piece.

prominent problem on counterfeit Indians and are found most commonly in the area behind the Indian's neck and frequently in the areas of the throat, face, inner edge of the rim, and lettering on the reverse.

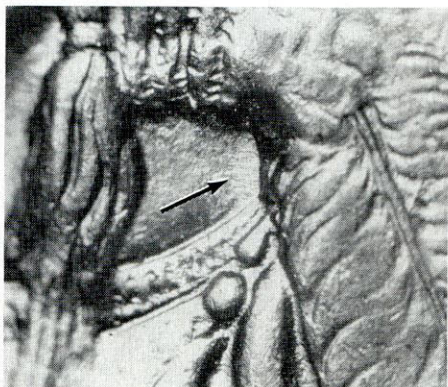
Depressions are the result of damage transferred from the original coin used to make the counterfeit die and are identifiable on fake \$2½ Indian pieces. Likely to be found almost anywhere on the surface, depressions occur with no pattern and are present on all pieces produced by the counterfeiter. Depressions should not be confused with damage; depressions have a texture common to the surrounding fields, while damage shows fresh metal that contrasts with other surface areas.



Counterfeit 1914 \$2½ Indian features several raised lines and depressions throughout motto. Most prominent is a long raised line extending through UNUM.



Counterfeit 1928 \$2½ Indian shows tooling marks inside obverse rim near third star and extra metal near third star.



Counterfeit 1914 \$2½ Indian bears tooling marks behind Indian's neck, a prominent area of tooling on counterfeit \$2½ pieces.

Characteristics of Genuine 1911-D \$2½ Gold Pieces

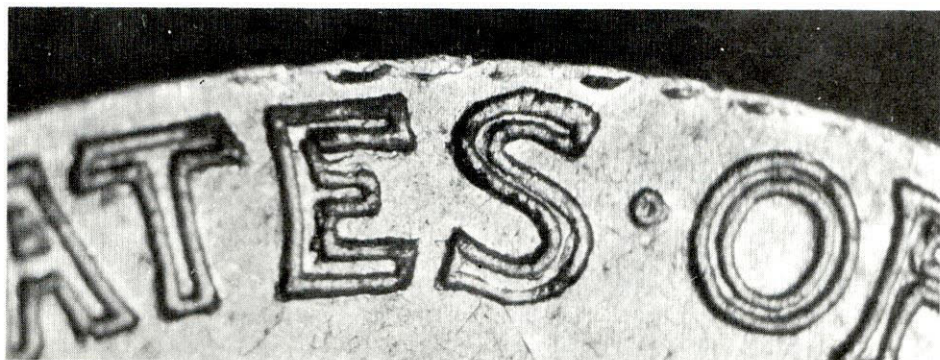
The \$2½ Indian series comprises only 15 different issues—12 minted by the Philadelphia Mint and 3 produced at Denver. Mintage figures throughout the series are consistently high, with one exception, the 1911-D. This key-date issue has a mintage of only 55,680, much lower than that of the 1914, which claims the next lowest mintage of 240,117. Because of its scarcity, the 1911-D \$2½ Indian is prized by collectors and therefore a prime target for alteration and counterfeiting.

Identification of genuine 1911-D specimens can be a problem, for the mintmark often is worn beyond recognition. (The mintmark is punched into the die, producing a raised image on the coin itself. Because the prevailing design elements are incuse, the mintmark remains unprotected and susceptible to immediate wear.) To complicate matters, the mintmark frequently was weak and in low relief when originally struck, thus making identification difficult in circulated grades. In grades of extremely fine or lower, the mintmark may be very weak or completely worn away.

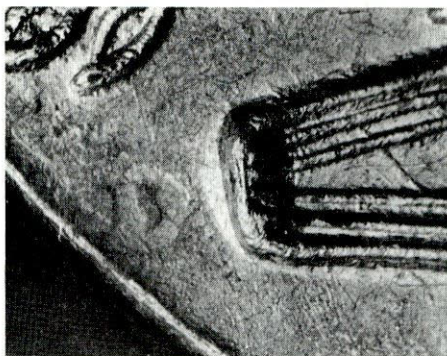
However, many 1911-D \$2½ pieces possess two visible characteristics that provide clues to their identification. The first is a prominent “wire edge” that runs from 11 to 5 o’clock on the obverse, the



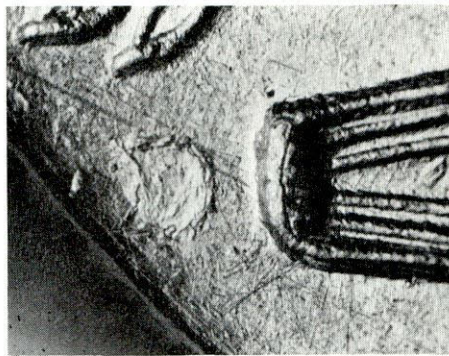
Genuine 1911-D \$2½ gold piece. Obverse shows “wire edge” from 11 to 5 o’clock. “Scalloping” commonly is evident inside reverse rim between 11 and 1 o’clock.



Genuine: Reverse rim displays scalloping, a unique characteristic of 1911-D \$2½ pieces.



Genuine: Mintmark appears in typical low relief. Key die polish evident in recessed area at end of arrow tips.



Altered: Mintmark on genuine 1911 Philadelphia issue is "chased out" (metal is scraped together in small lump and then tooled to resemble D mintmark). Die polish at end of arrow tips is missing.

result of a slight misalignment of dies during striking. The second is very unusual "scalloping" inside the reverse rim, most frequently appearing between 11 and 1 o'clock. Though these characteristics aid

identification, they alone should not be used to prove authenticity, for not all 1911-D specimens have them.

U.S. Gold

Diagnostics of Genuine \$3 Gold Pieces

When authenticating a coin, it is very important to bear in mind the diagnostics of genuine pieces. For example, the \$3 gold series, struck from a small number of dies, displays several telling characteristics.

Two pairs of dies were used to strike the 136,613 \$3 gold pieces issued in 1854. Specimens displaying no characteristics of either die pair should be carefully investigated. Coins struck from the first die pair display gouges between LIB of LIBERTY. In addition, several light die polish lines appear in and around the devices. The second die pair has few distinguishing characteristics, with the exception of some minor die polish lines.

At least three obverse dies and two reverse dies were used for production of \$3 gold pieces in 1859. On coins struck from the first reverse die the 1 and 9 of the date are repunched; in late die states the 9 is most obviously repunched. The second die displays repunching on the 18 of the date. Because only two reverse dies were



1854 \$3: Die gouges between LIB of LIBERTY.

used to produce the 1859 \$3 gold piece, authentication is relatively easy.

Two pairs of dies produced the \$3 gold business strike of 1878. On the first pair die chips are noticeable behind the eye of Liberty and at the base of the neck. The reverse exhibits vertical die polish in the bow of the wreath. However, only one

diagnostic stands out on the second die pair—a raised, horseshoe-shaped configuration between the ER of LIBERTY.

Only one die pair was used for business strikes produced in 1888. These pieces are easily authenticated because the obverse was struck with a doubled die and displays obvious doubling on UNITED. A doubled die occurs when the hub used to strike the die shifts between impressions, thus resulting in double images on the die.



1878 \$3, Die No. 1: Lumps of metal above and behind eye of Liberty.



1878 \$3, Die No. 1: Die polish and lumps of metal on Liberty's neck.



1859 \$3, Die No. 2: Repunched 18 in date.



1859 \$3, Die No. 1: Repunched 9 in date.



1878 \$3, Die No. 1: Die polish in bow on reverse.



1878 \$3, Die No. 2: Horseshoe-shaped configuration between ER of LIBERTY.



1854-O \$3: Die crack through mintmark and ribbon on reverse.



1854-O \$3: Die crack connecting bases of letters in AMERICA.



1888 \$3: Doubling on letters of UNITED.



1874 \$3: Semi-circular die polish inside bow on reverse.



1874 \$3: Die scratches extending from rim through STATES on reverse.

Counterfeit 1799 \$10 Surfaces

High grade and good luster are two deceptive characteristics of a counterfeit 1799 \$10 piece recently examined by the ANACS staff. The specimen in question had been cleaned, possibly in an attempt to disguise some of its condemning qualities.

The overall appearance of this coin is typical of many counterfeits. The manner in which the counterfeit dies are produced, along with insufficient striking pressure, results in weak, rounded letters and devices, a common diagnostic of counterfeit pieces. In addition, luster appears uniform through the fields and devices.

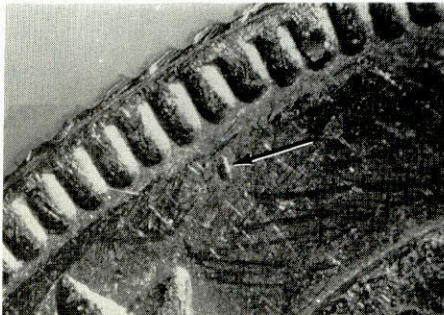
Depressions and raised lumps of metal also are peculiar to this specimen. Extra metal appears around the 7 in the date; raised bits can be seen behind and below the E of LIBERTY; and a large lump is evident behind Liberty's cap. Several let-



Counterfeit \$10 piece, dated 1799.



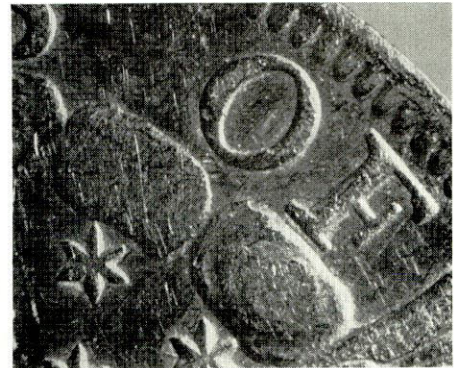
Extra metal shows through date. Rim and edge are very sharp.



Lump of metal in field behind Liberty's cap.



Extra metal extends behind and below E of LIBERTY.



Depressions on the word OF.

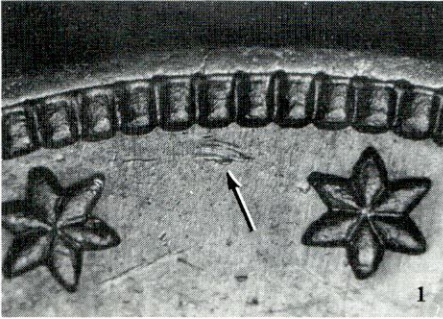
ters of UNITED STATES OF AMERICA display obvious depressions, particularly the word OF. The rims and edge of the coin are unusually sharp, much more so than those of genuine specimens.

1906-D Counterfeit Eagle Discovered

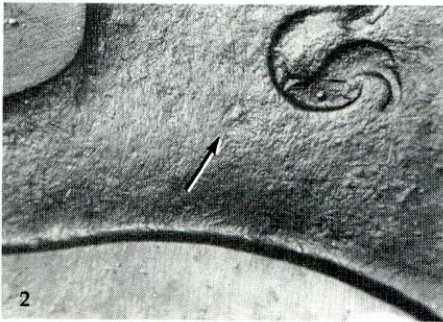
A new counterfeit in the \$10 gold series has been inspected by the ANA Certification Service staff. Although the coin exhibits characteristics of other gold counterfeits, such as "flat" luster from lack of metal flow, tool marks and excess metal, it would be wise to study the specific diagnostics of this coin. Dated 1906 and bearing a Denver mintmark, the piece conforms to original mint standards for weight, diameter and gold content.



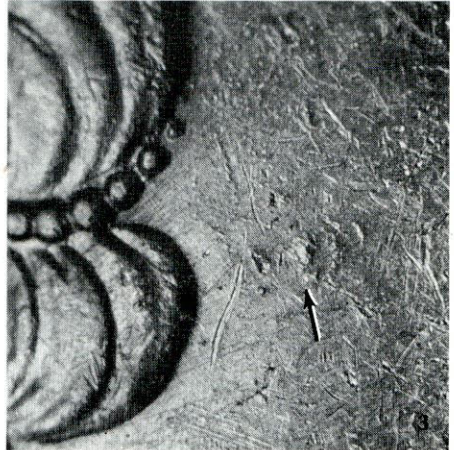
Counterfeit 1906-D \$10 gold piece.



Tool marks in field, close to the rim at 3 o'clock.



Tool marks on Liberty's neck to left of curl falling from ear.



Excess metal in field to right of lower third of Liberty's bun.



4
Tool marks in field to right of hair strand at back of Liberty's neck, the result of an attempt to correct a depression in the die.



5
Excess metal in vertical stripes of shield.



6
Raised metal between middle arrow tip and R of AMERICA.

1933 \$10 Pieces—Genuine and Counterfeit

Not everyday does one come across a genuine 1933 Indian Head type \$10 piece. But when the unlikely happens, knowledge of the diagnostics of 1933 Eagles will prove helpful.

The genuine 1933 Eagle exhibits much die polish on the obverse, most noticeable within the area of the date and the Indian war bonnet of Liberty. Genuine pieces also show crisp, sharp die polish at the stars along the obverse border.

In contrast, the counterfeit displays a totally different style of die craftsmanship. The eagle on the reverse is completely incorrect in design compared to the genuine piece, while extra lumps of metal appear throughout the reverse legend and in other areas of the counterfeit.



Genuine 1933 \$10 piece.



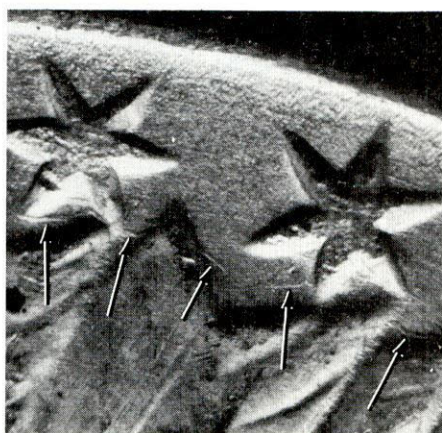
Counterfeit 1933 \$10 piece.



Genuine: Die polish through date.



Counterfeit: Unusually sharp digits compared to genuine. Raised lines and depressed areas surrounding date.



Genuine: Die polish through stars on obverse.



Genuine: Die polish and flow lines on face and field of obverse.



Counterfeit: Raised lumps of extra metal through letters of UNITED STATES.



Counterfeit: Raised lumps of metal through DOLLARS on reverse.

U.S. Gold

Signature Identifies "Omega" Counterfeit

Mention the "Omega" counterfeit and many individuals immediately think of the U.S. 1907 high-relief \$20 gold piece with Roman numerals, one of four types of spurious specimens of this coin documented by the ANA Certification Service. This particular counterfeit specimen receives its name from the "omega" insignia in the eagle's talon on the reverse. The counterfeiter apparently was so pleased with his work that he decided to use the Greek letter as his signature.

The Omega specimen is an attractive counterfeit with terrific eye appeal. Its weight and metal composition are accurate, as is the case with most U.S. gold counterfeits. Although the "omega" signature is enough to identify the coin as a counterfeit, it is important to recognize other characteristics of this deceptive piece.

Three of the most obvious areas are



The "Omega" counterfeit 1907 high-relief \$20 gold piece has terrific eye appeal.



Tooling shows up in a ray of sun above the first M of the date.



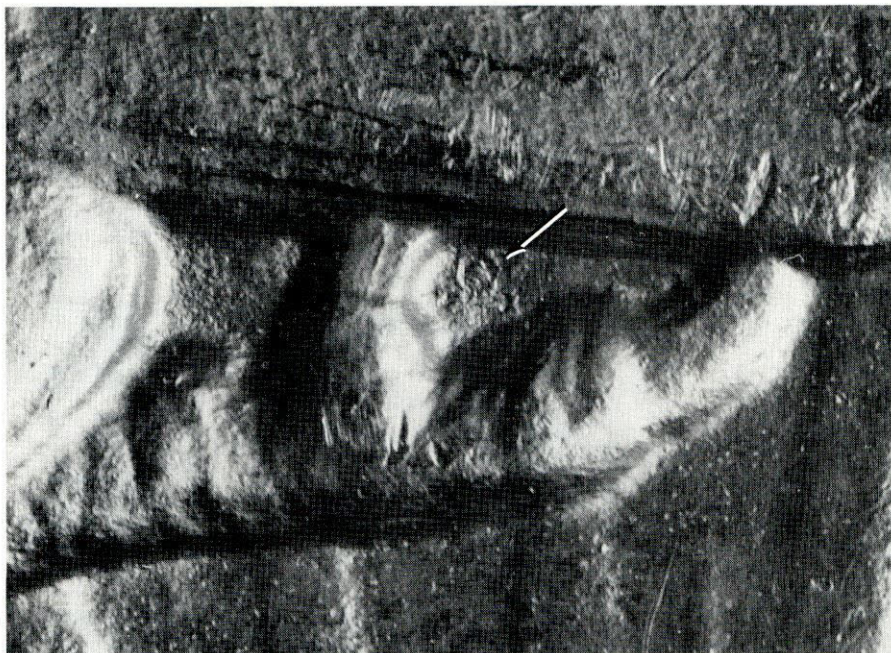
Tooling is evident in Liberty's hair.



On the reverse, tooling is apparent between the M and E of AMERICA.

created by tooling on the counterfeit die. On the obverse, tooling is evident in Liberty's flowing hair and in a ray of sun

above the first M in the date. The third area of tooling appears on the reverse between the M and E of AMERICA.



Counterfeiter's "signature," represented by the Greek letter "omega," appears inside the eagle's talon.

Gold Counterfeit Surfaces

A new counterfeit in the U.S. \$20 gold series recently has been inspected by the ANACS staff. Dated 1925, the piece exhibits very good luster, with only minor defects indicating the coin's falseness. The weight, diameter, gold content and other specifications correspond to original mint standards.

Because the overall eye appeal of the piece is dangerously deceptive, the diagnostics of this counterfeit specimen are detailed below.

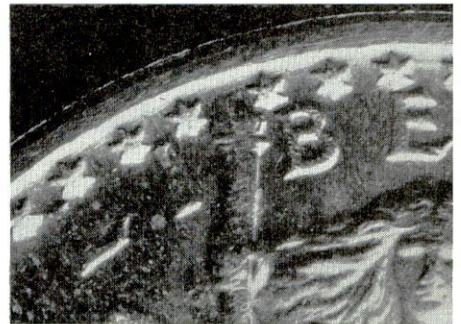
Counterfeit 1925 \$20 gold piece.



Depressions above knee on left leg and under Liberty's outstretched arm. Raised lump of metal above elbow.



Raised lines below TWENTY and between STA of STATES.



Spike of raised metal extending behind B of LIBERTY.



Raised lines on rim from 6 to 9 o'clock.

Raised lines extending from sun, past last T of TRUST and into rays below eagle on the counterfeit 1925 \$20.

U.S. Gold

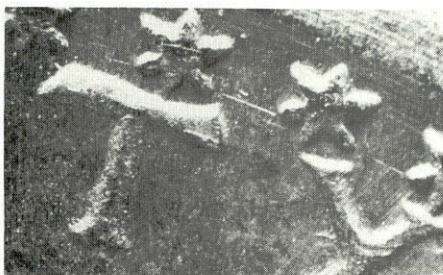
Counterfeit 1926 \$20 Gold Piece

An appealing counterfeit—a 1926 \$20 gold piece—has come to the attention of the ANACS staff. The piece was compared to a second counterfeit that appeared shortly thereafter, revealing identical depressions and raised lines.

The counterfeit gold piece displays a flashy, uniform luster throughout the fields and devices, a characteristic of fake pieces. Aside from raised lines running parallel to the rim above LIBERTY, the obverse of this piece is exceptionally clean, with few obvious depressions or raised portions of metal.

However, the counterfeit's reverse exhibits several condemning features, most notable of which is a vertical depression that appears on the eagle's wing below the Y of TWENTY. Numerous depressions appear in the rays below the eagle, and raised lines are obvious through UNITED STATES OF AMERICA and TWENTY DOLLARS. Most evident are two parallel lines running through the RS of DOLLARS.

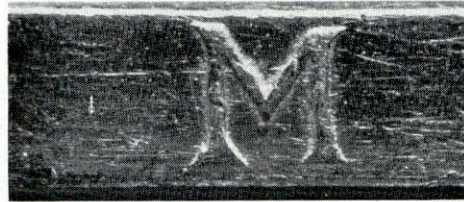
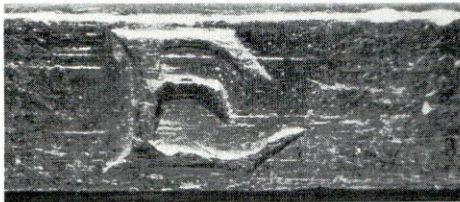
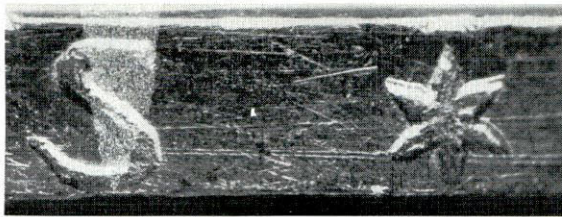
As has been stressed in the past, the edge of a piece should always be carefully inspected. In the case of this counterfeit, the edge displays many raised lines through the motto and stars.



Raised lines parallel to rim above LIBERTY.



Depression on eagle's wing below Y of TWENTY.



Raised lines on edge through motto and stars.



Small, raised portion of metal to right of ray above eagle's left wing.



Fine vertical raised lines between letters on reverse.



Raised lines through RS of DOLLARS.

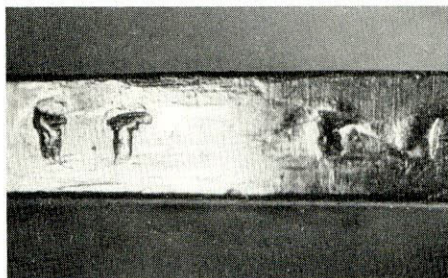
Typical Diagnostics Betray Counterfeit 20 Mark

Considering that the ANA's 95th Anniversary Convention is being held in Milwaukee, a city rich in German heritage, it's only fitting that a German 20-mark coin was submitted not long ago for certification. The coin, a counterfeit 1874-A 20 mark from the German State of Mecklenburg-Strelitz, is typical of fraudulent gold pieces, having a general proof-like appearance and granular surfaces. Because of the method of die preparation, the coin is slightly cupped and rocks from side to side when placed on a hard, flat surface.

The incuse lettering on the edge is slightly weak, even though the edge itself is sharp. The weight and diameter of this counterfeit specimen are within tolerances for the genuine 20-mark piece. With



Counterfeit 1874-A 20 mark.



Weak lettering on edge.



Surfaces of both obverse (left) and reverse exhibit granular appearance.

Italian Counterfeits Examined



1885-R 2-lire, counterfeit.

The ANA Certification Service is doubly fortunate to have both the ANA Library and Museum available as research resources. The Museum maintains extensive collections of United States and foreign coins and currency, including examples of counterfeit specimens. Examples of known genuine and counterfeit issues from the Museum's collection enable ANACS personnel to make comparisons with counterfeits that come to the attention of the authentication staff. Among the unusual examples of the Museum's counterfeit collection are three silver 2-lire pieces of Umberto I of Italy (Yeoman #29).

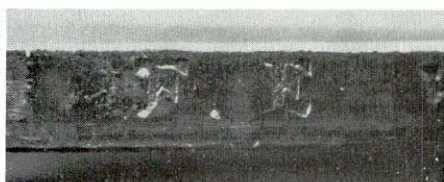
These particular counterfeit Italian coins are especially interesting because of



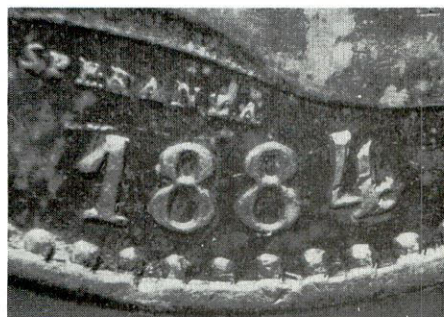
1885-R 2-lire, counterfeit obverse: tool marks on neck, hand-cut digits.



1885-R 2-lire, counterfeit obverse: repeating depressions on face.



1885-R 2-lire, counterfeit: edge letters are shallow and weak.



1884-R 2-lire, genuine obverse.



1898-R 2-lire, counterfeit obverse: weak details in letters of UMBERTO.



1884-R 2-lire, genuine obverse: sharp details with genuine die crack.



1884-R 2-lire, genuine obverse: crisp lettering, genuine die cracks.

their unique style and manufacture. All the coins examined and illustrated here have identical depressions, raised lines and overall appearance. Each of these pieces, however, has a different date. The dated counterfeits seen thus far in this group are an 1885-R, an 1898-R and an 1899-R.

The most obvious characteristics on the obverse of each of these three examples are the repeating depressions that appear on the face of Umberto I. These depressions are the result of bagmarks transferred to the counterfeit die from the original specimen. Close inspection of the obverse of each of these coins reveals different die states resulting from the counterfeiter's attempt to tool or polish the dies. The tool marks over the depressions that appear on the face of Umberto I on the 1898-R 2-lire counterfeit specimen are the counterfeiter's efforts to hide the transferred bagmarks. The reverses of these three counterfeits are all identical. Diagnostics include the raised

polish lines throughout the field and the repeating depressions that appear on the shield.

As ANACS has stressed in the past, examination of a coin's edge is vital to the detection of both altered and counterfeit pieces. This holds especially true for these counterfeits, as the edge or "third side" of each of these 2-lire pieces shows condemning characteristics. Deep, even lettering and edge devices are characteristic of genuine 2-lire pieces, whereas the edges of these counterfeit pieces show shallow and wandering edge devices and lettering.

The method used in the manufacture of these counterfeits is not uncommon. Produced by the "transfer method," the counterfeit dies were made from a genuine coin, probably a common date such as an 1884-R or an 1887-R. Except for the date, all detail from the genuine coin was transferred. Then by mass production of obverse dies, the counterfeiter was able to produce any number of differently dated obverses. On these counterfeits, a scarcer date was hand engraved directly on each die to increase the counterfeiter's profit margin.

In addition to an examination of diagnostic characteristics, comparison of the specifications of the counterfeit specimens with those of the genuine pieces plays a major role in the detection of counterfeit coins. A comparative analysis of a genuine 2-lire coin with the counterfeit specimen reveals obvious discrepancies.

As the chart indicates, the counterfeits are considerably lower in silver content and weigh slightly less than a genuine 2-lire coin. Often a counterfeiter will



1884-R 2-lire, genuine reverse: crisp, sharp details.



1885-R 2-lire, counterfeit reverse: weak details, raised tool marks in field.



1884-R 2-lire, genuine reverse: crisp, well-defined devices.



1898-R 2-lire, counterfeit: tool marks and weakness of detail.

	DATE	WEIGHT	SPECIFIC GRAVITY	FINENESS	DIAMETER	THICKNESS
Genuine	1881-1889	10.00g	10.17	.835	27mm	2mm
Counterfeit	1885-R	9.83g	9.79	.600	27mm	2mm
Counterfeit	1898-R	9.80g	9.79	.600	27mm	2mm
Counterfeit	1899-R	9.70g	9.81	.600	27mm	2mm

"cheat" a bit on the precious-metal content of his product. In many other instances, however, incorrect weights

and specific gravities are simply the result of incompetence on the part of the counterfeiter.

Foreign Coins

Counterfeit Italian 5 Lire Examined

A 1914-R Italian 5-lire piece that recently passed through ANACS appeared deceptively genuine when the obverse was inspected; however, several reverse diagnostics betrayed the coin as counterfeit.

Circular depressions are evident throughout the reverse of the coin, the most obvious one appearing above and between the numerals 1 and 4 in the date. Additional depressions are seen on and around the numeral 5 in the denomination, and small depressions surround the letters FERT on the quadriga.

The field displays several small lumps of raised metal, particularly in the area surrounding the standing figure. In addition, raised tool marks, evident only under high magnification, appear to the right of the designer's name, D. CALANDRA. M, and serve to mask a circular depression.



Counterfeit Italian 1914-R 5-lire piece. Raised tool marks appear to the right of the designer's name.



Small depressions surrounding letters FERT on quadriga.



Circular depression above and between 1 and 4 of date.



Circular depressions on and around denomination numeral 5.



Small lumps of metal surrounding standing figure on reverse.

Foreign Coins

Counterfeit Mexican Bullion Not Particularly Deceptive

Many similarities exist between the bullion coins recently introduced by the United States and Mexico. For instance, both countries have issued gold and silver coins, and both re-introduced designs used on earlier pieces.

The United States adapted Saint-Gauden's obverse design from the 1907-33 \$20 gold piece for the gold issues and Weinman's obverse design from the 1916-47 half dollar for the silver pieces. Mexico

borrowed both obverse and reverse designs of its various centavo and peso denominations for its bullion issues.

Hopefully, the similarities between U.S. and Mexican bullion issues stop there. Counterfeits of Mexican silver 1 onza (Libertad) and gold 50 pesos are known, but luckily counterfeit U.S. bullion coins have yet to be seen.

This counterfeit 1 onza is relatively easy to spot; in fact, magnification is not



Genuine 1982 Mexican 1 onza (Libertad).



Counterfeit 1982 Mexican 1 onza.

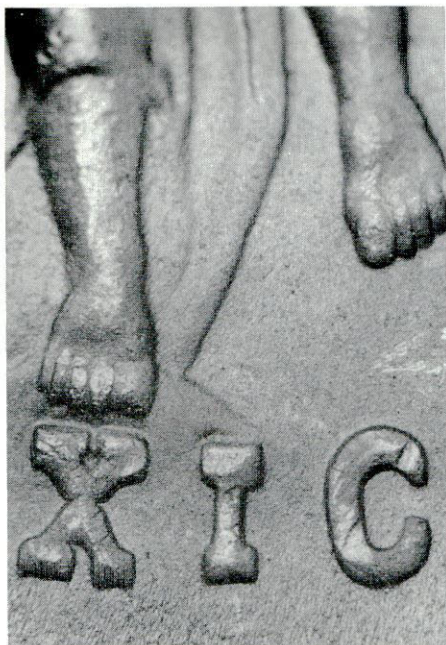


Liberty on genuine 1 onza (left) bears no resemblance to figure on counterfeit, which has "kewpie doll" face.



On genuine 1 onza (top), Liberty's right wing extends to rim, unlike wing on counterfeit.

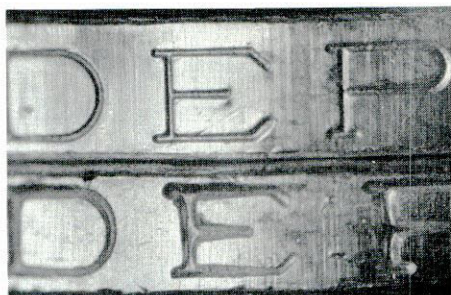
Date features block-style numerals on genuine 1 onza (top), thinner numerals on counterfeit.



Genuine 1 onza (left) displays strong definition of Liberty's right foot and serifs on I of MEXICO; counterfeit does not.



Genuine 1947 Mexican 50 pesos.



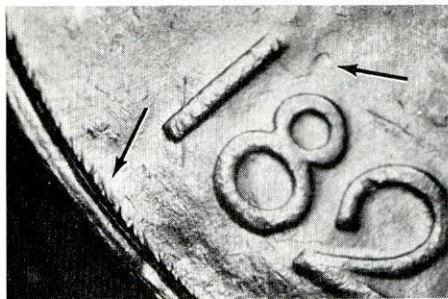
Lettering on edge of genuine 1 onza (bottom) is spaced farther apart than on counterfeit specimen.



Counterfeit 1947 Mexican 50 pesos.

even necessary. Side-by-side comparison of an authentic 1982 1 onza and a counterfeit specimen reveals variances in style throughout the design. Perhaps easiest to detect is Liberty's "kewpie doll" face on the counterfeit.

The counterfeit displays other obvious style differences: 1) Liberty's right wing does not extend completely to the rim of the coin; 2) spacing and style of the letters in MEXICO are wrong; 3) the definition of Liberty's right foot is poor; 4) numerals in the date are of a different style;



Counterfeit 50 pesos displays spikes along rim and depression in field above 18 of date.

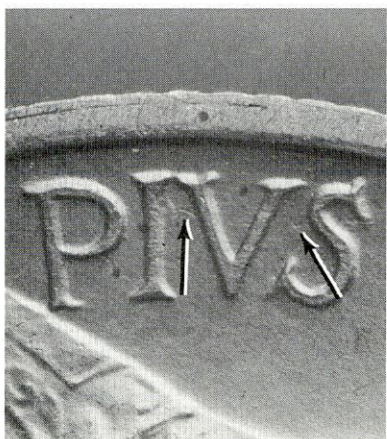
and 5) the edge lettering is more closely spaced and differs in style. Other counterfeit 1-onza pieces with different dates basically display the same characteristics, the "kewpie doll" face again being the most obvious.

Foreign Coins

Unnatural Luster Typifies Counterfeit Vatican City 100 Lire

The subject of this month's ANACS report is a counterfeit 1929 Vatican City gold 100 lire. The piece exhibits characteristics typical of many spurious coins, in particular a soft strike and unnatural luster.

The most easily detected diagnostics of this counterfeit are repeating depressions



Linear and circular depressions are evident around PIVS. Note the counterfeit's granular surface.

Well-known to many is the Mexican 1821/1947 50-peso gold coin, especially the official restrikes produced between 1949 and 1972. A counterfeit of this 50 pesos exhibits poor detail, with raised metal throughout the surfaces.

When the counterfeit is compared to a genuine 50-pesos, this loss of detail is obvious, especially inside the wings. Also, light "spikes" along the rim and a depression in the field above the 18 in the date are apparent on the counterfeit coin. Both the weight and metal content of these silver and gold counterfeit Mexican bullion coins correspond to standards of genuine specimens.

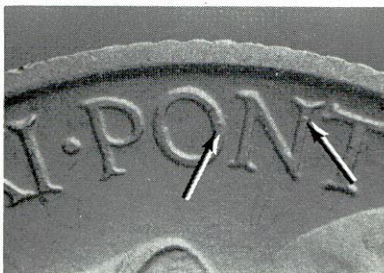
Hopefully, modern U.S. bullion coins will not be the next target of counterfeiters, but the appearance of spurious foreign bullion pieces should alert us to the possibility.



Counterfeit 1929 Vatican City 100 lire exhibits a soft strike and unnatural luster.



A linear depression extends through the T of CITTA and into the halo. Light depressions also are apparent on the halo itself.



Circular depressions appear on and below the lettering.



Raised lines of metal run through AN and O of VATICANO.

throughout the lettering on both the obverse and reverse and in Christ's halo. Lines of raised metal also run through the lettering, denomination and date.

The ANA Certification Service began authenticating both U.S. and world coins in 1972. In fact, the very first coin examined by the service was a 1918 20 pesos

of Mexico. Now, for an additional \$10 fee, ANACS also will grade world coins. Readers who have questions concerning this service or who would like to submit foreign coins for authentication and grading are invited to contact ANACS, 818 North Cascade Avenue, Colorado Springs, CO 80903-3279, telephone 719/632-2646.