

*Mysteries revealed
Tombs and Treasures unsealed
Shine forth infinitely bright
Over query unheard in the dead of night*



*Aluminum periodic coin, The
Elements Coin Series. (Courtesy of
Metallium, Elementsales.com.)*

The Paradigm in Aluminum Patterns by Douglas Ward

For more than a century its existence was suspected, yet in the early 1800's it was still a mystery. Until then, the metal contained in the mineral alum had remained elusive. Alum itself had been discovered thousands of years earlier in the deserts west of Egypt. And the Egyptians found alum useful as an astringent and dye mordant – the first uses among many to come. However, owing to the high melting point of its chief ore and a general lack of electrical expertise, aluminum metal had evaded human endeavor.

That changed in 1825 when Danish physicist Hans Christian Orsted combined potassium amalgam with aluminum chloride to produce the first tiny amount of the shiny, buoyant metal. Even so, his method proved both difficult and costly to scale into production quantities. As a simple curiosity, its promise unrevealed, more than 20 years would pass before a significant amount could be accumulated. In 1852 the first aluminum ingot was offered for sale, and then at a price greater than gold – \$550 per pound, more than \$34 per ounce – while gold was little more than \$18.

By 1855 Henri Saint-Claire Deville had developed an improved process and produced enough aluminum to cast into ingots. His display at the Paris World's Fair attracted the attention of Napoleon III. After being gifted an aluminum rattle for his infant son, he provided financial backing in hopes of revolutionizing military armaments. Instead, the Emperor of France would impress his most distinguished dignitaries with aluminum utensils, while lesser guests ate with gold flatware. Still, Deville's new process, while cheaper, remained chemical. Battery technology had improved, but electrolytic knowhow lagged and remained expensive. At over \$2 per ounce and in limited supply, aluminum was exotic and expensive in 1855 when the US Mint struck its first coin from the metal – a single half dollar from the standard coinage dies. (Fig. 2)¹



Figure 2. The unique 1855 half-dollar die trial pattern, J175. The first coin struck in aluminum by the United States mint at Philadelphia. Andy Lustig of USPattern.com suggested it was struck for the Paris World's Fair or as a result of a Mint official's visit to the Paris exhibition. (Courtesy of the Princeton University Library.)

As it turned out, aluminum was harder than silver or gold, but softer than copper or nickel. The United States Mint had hoped it would be easier to strike and greatly extend die life. Its low density of 2.7 would certainly make aluminum less expensive, even at a cost similar to silver. Copper and nickel are more than three times heavier than aluminum, silver nearly four times, and gold more than seven times heavier for the same volume. The problem with aluminum was its extreme reactivity with oxygen, which caused the instantaneous formation of an oxide layer on the metal's surface. While this layer protected against further corrosion, aluminum oxide is one of the hardest substances known. It occurs naturally as the mineral corundum and is coveted in the crystalline form as Ruby and Sapphire. Although striking pressure for aluminum could be lowered, the hard and abrasive oxide layer caused excessive wear and shortened die life. It took some time for the Mint to strike sufficient pieces from the same dies to discover this shortcoming.

In May of 1857, the Philadelphia Mint hired a new Register and aluminum could be bought for the same price as silver, about \$17 a pound. Mr. Archibald Loudon Snowden was the nephew of Mint Director John Ross Snowden, and as such his employ was assured. (Fig. 3 & 4) Still, he was college educated and by all accounts an excellent orator and organizer. He took leave during the Civil War and as a commissioned Lieutenant-Colonel assisted in enlisting and organizing a Philadelphia regiment. After being overlooked for assignment and promotion, he resumed his role at the Mint and was soon promoted to Chief Coiner. The price of aluminum would not drop much over his Mint

tenure, which lasted until 1885. At that time, it would sell for \$15 per pound. A year later in 1886, the first industrial scale process for producing aluminum was invented, the Hall-Heroult process, after which its price would drop precipitously.



Figure 3: 1876 picture of Colonel Archibald Loudon Snowden, Chief Coiner of the Philadelphia Mint and nephew of James Ross Snowden. (Courtesy of the Philadelphia Free Library Print and Picture Collection.)



Figure 4: 1859 bronze medal of James Ross Snowden, Director of the United States Mint and Col. A. Loudon Snowden's uncle. (Courtesy of the ANS, 1930.56.1)

In the meantime, 1858 marked the beginning of the restrike scandal surrounding the 1804 Dollar, to which Director James Ross Snowden was an undiscerning party. His infamous letter of January 22nd, 1859, to Treasury Secretary Howell Cobb admitted the practice of restriking coins and was an elicitation to condone it for the benefit of the Mint Cabinet of Coins:²

"We are daily pressed upon, by Collectors of Coins from all parts of the country either by letter or in person, for specimens of pattern pieces of coin, and rare types. A few have been in every case issued..."

The practice of striking backdated specimens had found its origin in the diplomatic coinage sets of 1835, each containing a Class I 1804 dollar. Irreverent and capricious conduct ensued that by collective intent or oblivious nature resulted in the air of careless appropriation and ethical disregard captured in Director Snowden's letter. His nephew, Mr. A. Loudon Snowden, took a deep breath, and thus began his indoctrination in the ways and means of pattern, trial and experimental pieces.

In 1863, the Mint struck thirty-one copies of a pattern dime in aluminum and a few two and three-cent patterns. (Fig. 5) Several other patterns were also struck in 1864 and 1865, as the Mint

experimented with aluminum and its alloys. However, the majority of Civil War era aluminum patterns were actually re-struck in later years³ by the Mint's smitten Chief Coiner. By the time Col. A. L. Snowden was promoted to that post in October of 1866, the price of aluminum had changed little. Due to its high manufacturing cost and limited supply, few industrial uses beyond fountain pens and false teeth had emerged.



Image 5: 1863 pattern dime struck in aluminum, J327. Considered for redemption of U. S. notes in circulation, experimental pieces in several alloys were sent to Treasury Secretary Salmon P. Chase. (Courtesy of Heritage Auctions.)

In 1867, the Mint was considering designs for a new five-cent piece and one pattern was struck in aluminum, with both plain and reeded edge. Original motivation for this endeavor was found in a letter from Chief Engraver James B. Longacre to Treasury Secretary Hugh McCulloch.⁴ Dated June 12th, his message extolled the physical properties of aluminum and its use for fractional US currency. Included with the letter were examples of his newly designed five-cent coin, 100 of which were struck. The Chief Engraver further promoted aluminum as conveying intrinsic value for such coinage, but wrongly concluded its long-term price stability. Newly appointed Director of the Mint, Henry R. Linderman, refuted Mr. Longacre's value contention.⁵ In his follow-up letter, he cautioned of '*its great reduction in price... at no distant day*' and counseled prudently waiting '*before attempting the issue of a national coinage.*' Of course, his warning was prophetic, but it would take nearly twenty years before aluminum lost its luster.

In July of 1867, a specimen of the aluminum five-cent piece was sent to the American Numismatic Society. (Fig. 6) It was accompanied by a letter from Director Linderman who reiterated his reserve for its coinage utility.⁶

"In accordance with the rules lately adopted I have the pleasure of inclosing for the society which you represent the first pattern piece struck under the new system of distribution. It is a five-cent piece struck in the new metal – aluminum – with entirely new devices, and intended to weigh the same as the silver half dime (19.2 gr., or .04 oz.) But having only one fourth the specific gravity of the silver piece, it is four times bulky. It is just the size of the half eagle. The piece was designed by our engraver (and dies made by him) upon the theory of giving full intrinsic value; consequently, it contains aluminum to the amount of five cents in currency. But as the theory will not hold for the minor coinage it is certain this piece will ever remain a mere experiment."

His description would place the value of aluminum at \$1.25 per ounce. It also signaled a continuing effort by certain Mint officials to legitimize pattern sales. A limited number were made available to ANS members for \$3 a piece, with a maximum of one per applicant.



Image 6: 1867 pattern five-cent piece struck in aluminum, J562. Specimens were offered to ANS members at \$3.00 each. (Courtesy of Heritage Auctions.)

The United States Mint struck its first medal in aluminum in 1868 – the Cyrus W. Field Congressional Medallion commemorating the laying of the Trans-Atlantic telegraph cable. (Fig. 7) For the award itself, the Mint struck just one medal in gold. However, it also struck six pieces in aluminum. Ostensively die trials, these were likely made at the whim of its Chief Coiner, Col. Snowden, with approval from its new Director, Dr. Linderman. The Mint Assay Medal of 1868 was also the first one struck in aluminum. (Fig. 8) These events portend the Chief Coiner and Director's fascination for pattern and off-metal issues, especially those struck in the lightest of metals.



Figure 7: 1868 Cyrus W. Field congressional medal commemorating the laying of the Trans-Atlantic telegraph cable. The first medal struck in aluminum by the United States Mint. (Courtesy of Stacks' Bowers Gallery.)



Figure 8: 1868 United States Mint Assay medal. The first assay medal struck in aluminum. The design was by engraver William Barber. (Courtesy of Stacks' Bowers Gallery.)



Dr. Henry Richard Linderman was hired by the Mint in 1853 and served as the Director's Clerk under James R. Snowden until 1864. He left to enter a banking partnership with his brother, but would return as the Mint's appointed Director in April of 1867. He served in that role until May of 1869, when the political winds shifted. During his time with the Mint, he would serve both admirably and under various clouds of suspicion. He was the principal author of the Knox Coinage Act of 1873. With the new law the position of Director of all the Mints was created and he was appointed to that post in April of 1873.

Mint Director Linderman proceeded to write and administer new Mint rules which expressly ended coin restriking. However, rules surrounding off-metal patterns were ambiguous. In that same year he would present a six-piece Trade dollar set, struck in aluminum, to Secretary of State Hamilton Fish, one of perhaps two sets known. (Fig. 9) Greater numbers were struck in copper and silver, with the silver sets being sold for \$30. The Act was also controversial and picked up the moniker 'The Crime of '73' for effectively demonetizing silver. In kind, issuance of the Trade dollar was approved to appease silver interests. Dr. Linderman became embroiled in several other

controversies, including the 1869 restrike, 1876 pattern and 1878 San Francisco Mint and Mine scandals.



Figure 9: 1873 Trade dollar pattern struck in silver, J1310, was included in a set of six such patterns sold by the Mint. One of two possible sets struck in aluminum and gifted to Secretary of State Hamilton Fish was purchased by Wayne Gretsky in 1990 for \$137,500. (Courtesy of USPatterns.com and PCGS.com.)

During his time at the Mint Dr. Linderman assembled a respectable coin and medal collection that included a Class III 1804 Dollar restrike. It also contained the aluminum Cyrus W. Field and Mint Assay Medals of 1868. The collection was posthumously cataloged for auction in 1887.⁷ Of its 188 lots, 116 contained patterns totaling 230 pieces. A number of these were struck in aluminum and white metal. The collection was seized by Treasury officials and eleven lots were removed before it was finally auctioned in 1888.⁸ Patterns may have been a penchant and peccadillo picked up from his boss and predecessor, Director J. R. Snowden, who was disposed to more liberal Mint practices regarding their striking and distribution. Patterns were certainly suggested and offered to him by Chief Coiner, Col. Snowden, to assuage his desire and dissuade official scrutiny. In any event, he too breathed the air of duplicity and succumbed to its unethical ether. (Fig. 10 & 11)

Even so, only five patterns in Dr. Linderman's collection had not previously appeared at auction, and were likely unknown to collectors. That number pales in comparison to the more than 700 patterns that had not appeared at auction prior to his death in 1879.⁹ This meant that while Dr. Linderman was Col. Snowden's most important client, he was not his most valued. It further implies that the Mint Director was oblivious to the enormity of his Chief Coiner's pattern umbrage. Two pieces that first saw the light of day from the Director's collection were Gobrecht Seated Liberty

silver dollars, J85 & J105. Dated 1838 and 1839, they were actually restruck sometime after 1868. The most interesting of the five was an un-dated aluminum dime, probably struck in 1868. It was a unique mule – a coin combining the postage currency obverse of 1863 with the 1868 regular coinage pattern reverse. (Fig. 12) Serving no apparent purpose, it was a piece de caprice and surely an early work of Chief Coiner, Col. Snowden.



Figure 10: Henry R. Linderman, 12th & 14th Director of the Mint, 1867 – 1869 & 1873 – 1878. (Courtesy of the Library of Congress.)



Figure 11: 1879 United States Mint Assay medal struck in bronze and depicting Henry R. Linderman. (Courtesy of Stacks' Bowers Gallery.)



Figure 12: Unique pattern mule dime struck in aluminum in 1868, J332, with corroded obverse. (Courtesy of USPatterns.com.)

In 1868, twenty-eight patterns were struck in aluminum, all in very limited numbers. Most important among these was the striking of all sixteen standard coinage denominations in aluminum. Two sets were originally requested by Treasury Secretary McCulloch in early 1868. They were intended as gifts for the governments of France and England. In this way they were reminiscent of the 1835 diplomatic coinage sets containing the 1804 dollar that were struck for the Imam of Muscat and King of Siam. These first two sets, sent to Secretary McCulloch on April 6th, were not enclosed in display cases and instead were intended for inspection and approval, prior to being sent as articles of diplomacy. This intent is clear from the letter accompanying them written by Director Linderman.¹⁰

"I forward to your address to day a package containing two sets of impressions of our coins in aluminum, also, wax impression from the Field Medal Dies.

I invite your attention to the fullness and accuracy of the impression from the coining dies, taken at your request in this comparatively new metal. We were aware of the peculiar malleability of the metal but some of these impressions surpass our anticipation in the perfection with which the work is brought up."

"The balance of the impressions in aluminum will be forwarded as soon as we secure a supply of the metal from New York."

Four additional sets were struck and sent in double sided display cases to Secretary McCulloch in May. (Fig. 13) One of these sets was kept by the Treasury Secretary and remained with the McCulloch family for many years. Another set was reported as stolen in January of 1869 from the office of Mr. D. A. Wells of the Treasury Department.¹¹

An additional five sets were requested by Director Linderman on June 6th. One of these he kept personally and it appeared in the posthumous auction of the former Director's collection. This set was among those seized and later retained by the government. In May of 1869, amidst the restrrike scandal, he would leave his Mint position at the request of the newly elected President, Ulysses S. Grant. The remaining sets were intended for collectors. The first of these appeared at auction in October, 1870, by Ebenezer Locke Mason and was described in Mason's Monthly Magazine:

"The most interesting feature in the collection of pattern pieces is a complete set of U. S. coins from the twenty dollar to the one cent piece, inclusive, struck in aluminum, a metal resembling silver and so light that it is said to float on water. This set is handsomely mounted in a beautiful Morocco velvet-lined case, made at considerable expense, and the set an exact counterpart of those sent to Paris and London as presents from our government. Six sets only were struck and the purchaser will receive the proper evidence of this fact."



Figure 13: 1868 Set of regular United States coinage struck in aluminum. Originally intended as diplomatic gifts to England and France. (Courtesy of USPatterns.com and Heritage Auctions.)

The lot description gave additional details – “*never before offered at public sale; of the highest rarity, as no duplicate of this set can be obtained at any price; valued by the former owner at \$300.*”¹² Sets were offered twice again at auction before seizure of the Linderman set, but not until 1881 and 1882. Both auction descriptions claimed only five sets were issued and neither was seized by the government.

Prior to 1865, patterns of the regular coinage were seldom struck and usually for their intended purpose as die trial pieces. The practice of speciously striking such pieces began in earnest in 1866, the same year Col. Snowden became Chief Coiner. In 1867, the first full year in his new position and tenth at the Mint, three regular die trial sets were struck in copper and many were struck in other metals, but none were struck in aluminum. This changed in 1868 with the request for the diplomatic coinage sets struck in aluminum. As avarice and desire took over, the eleven sets previously described were created.



Figure 14: 1885 pattern quarter eagle struck in aluminum, J1752. Part of two complete regular coinage sets created as mementoes by Philadelphia Mint supervisor Col. Snowden. (Courtesy of Heritage Auctions.)

As it turned out, only aluminum was used to strike die trial pieces dated 1868, with the exception of three lower denomination pieces. This is a decisive anomaly that would occur only one other time. In 1885 and facing investigation, Col. Snowden would resign as Superintendent of the Philadelphia Mint. Before doing so, he would again strike two full sets of regular die trial pieces in aluminum. (Fig. 14) One set was sold to collector William Idler and the other Col. Snowden kept as a memento. No other die trial pieces dated 1885 were struck in any other metal. Only one other 1885 dated pattern was struck in aluminum – The Snowden Design of the Morgan dollar with E PLURIBUS UNUM in raised edge lettering intended to deter counterfeiting. (Fig. 15) In total, only two

other patterns were struck in 1885 – the perforated one-cent and a five-cent patterns called “Eastman Johnson’s holey designs.”



Figure 15: 1885 Snowden pattern dollar struck in aluminum, J1749. Edge lettering was intended to deter counterfeiting. (Courtesy of USPatterns.com and Heritage Auctions.)



Figure 16: 1863 pattern dollar with-motto of 1866 struck in aluminum after 1868, J347. (Courtesy of USPatterns.com and Heritage Auctions.)

While somewhat similar die trial sets were struck and dated 1863, 1864 and 1865, these sets contained all re-struck coins made for collectors between 1869 and 1870. They were re-struck in aluminum, as well as silver and copper. The dollar, half-dollar and quarter were re-struck with the motto “In God We Trust” reverse, which was not used until 1866. (Fig. 16) Some sets also included

the dime, half-dime and trime or three-cent piece, and some included the two and one-cent coins. Many other pattern coins dated 1855 to 1865 were re-struck by the Mint in many different metals after 1868, but only two of those were re-struck in aluminum.

This practice of restriking coins was very rare prior to 1834, as Mint operators adhered to an ethical code, if not well written rules. In that year, coin restriking began an initiation of sorts, as Mint employees worked to create the diplomatic coinage sets containing the 1804 Dollar. The practice was instigated in earnest between 1858 and 1860 when a multitude of patterns were re-struck in many different metals, although none in aluminum, which was rarer than gold. As with the Class II 1804 dollars, re-struck during the same time, this was done clandestinely. The Mint's new register, Mr. A. L. Snowden, watched and coveted, if not the patterns themselves, then certainly the practice.

Many of these re-struck patterns were dated from the late 1830s and early 1850s. Their creation and the ensuing scandal followed a period when Mint officers had actively condoned and engaged in the use of Mint facilities to produce medals for personal gain. Through the 1860's, the fallout continued to foment collector mistrust that demanded a response from Mint officials. And a response was surely discussed between Chief Coiner Snowden and Director Linderman in early 1869. It culminated in the highly publicized destruction of more than 700 dies and hubs prior to Dir. Linderman's separation from the Mint in May. The dies were all dated between 1800 and 1854.

The Director's decision and Chief Coiner's actions were meant to clear the air of recrimination for past improper Mint deeds in restriking coins from those dies. However, dies dated after 1854 continued to be used to restrike coins. In 1869 and later years, nineteen such patterns dated between 1863 and 1865 were re-struck in aluminum. Many more were re-struck in other metals. The early dies were also destroyed to clear the way for an onslaught of pattern coins hitting the collector market. In 1868 twenty-eight of the more than 60 patterns created were struck in aluminum. In 1869, the number of patterns created more than doubled, exceeding 130 and those struck in aluminum increased to 35. Pattern creation doubled again and peaked in 1870 when more than 280 were struck, 88 of those made of aluminum.

This pattern and restrike endeavor had become a business. While some pattern sets and pieces were sold legitimately through the mint, most were not. As the plan evolved, middlemen would be used for outside sales, some of whom would later be described as numismatic fences and 'refrigerators.' Mr. E. L. Mason was such an operator, acting either directly or through connected

collectors. From 1869 to 1871, Mr. Mason conducted nine auctions at which 151 patterns dated 1799 to 1869 first appeared at auction, nearly 25% of the total number produced by 1868.

In later years, attempts were made to catalog the great number of patterns produced by 1885. The first such accounting outside the mint was made by Mr. Robert Colton Davis. Mr. Davis was a well-educated druggist, businessman and member of the Numismatic and Antiquarian Society of Philadelphia. As a native son, his proximity to the Philadelphia Mint facilitated his amassing a large coin collection rich in patterns. From 1885 to 1887, he published his catalog of “Patterns and Experimental Issues of the United States Mint” in the *Coin Collector’s Journal*.¹³

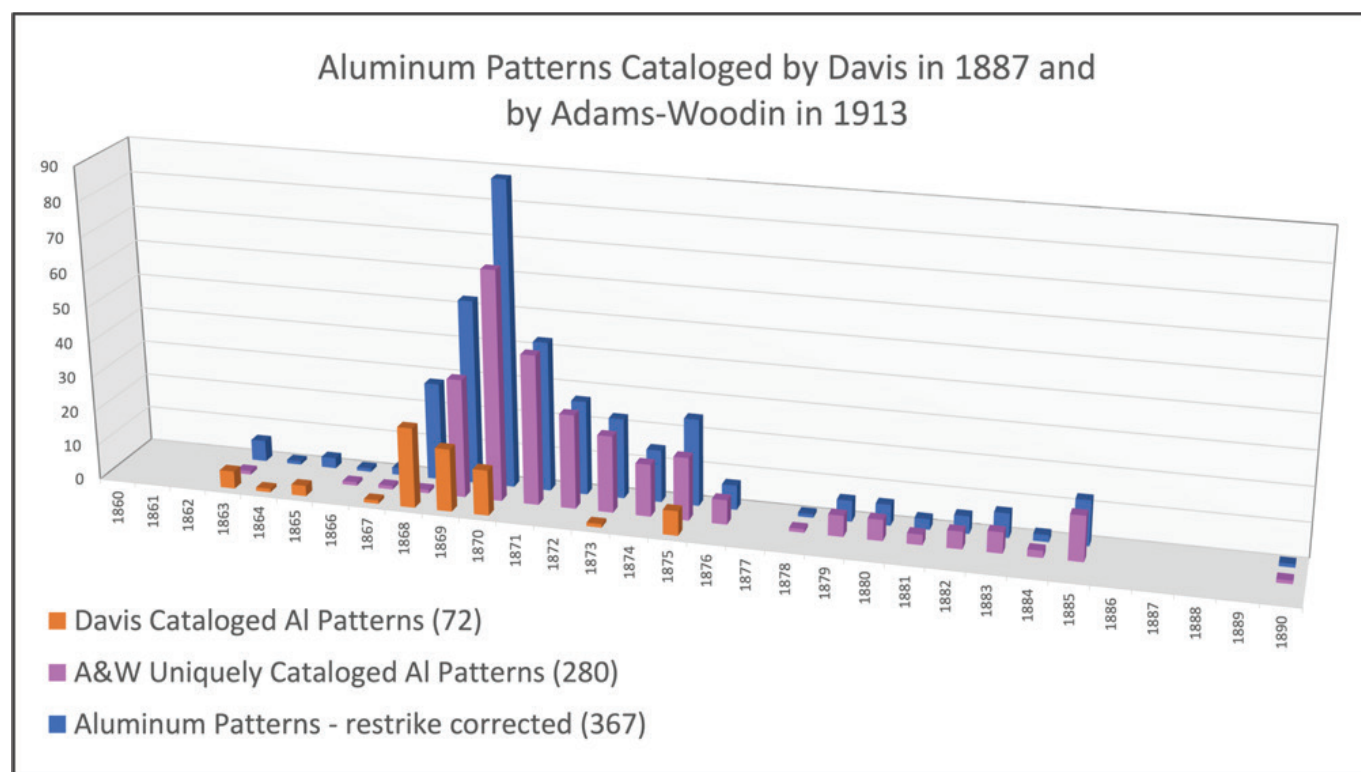


Figure 17: Aluminum patterns cataloged by Davis in 1887 and Adams & Woodin in 1913 compared to those known. Data corrected for restrikes. (Data from *Surreptitious Pattern Recognition* by Douglas Ward, 2024, unpublished.)

Mr. Davis listed 742 patterns in his catalog, many of them were the same pattern struck in multiple metals. The vast majority, 679 of these, had already appeared at auction when his catalog was published. Strangely, 262 patterns he did not list had also appeared at auction prior to 1887, with most appearing multiple times. These should have been known to Davis, making it obvious he did not study public auctions and that his primary source of information was personnel from within the Philadelphia Mint. This conclusion is further supported by the aluminum patterns he would catalog – and not catalog. (Fig. 17)

- 1868: of the 28 patterns struck in aluminum, Davis would list 23.
- 1869: he would catalog 18 of the 35 aluminum patterns struck.
- 1870: 13 of the 88 patterns struck in aluminum were listed by Davis.
- 1871 – 1874: Davis listed only one of the 114 aluminum patterns struck.
- 1875: of the 25 patterns struck in aluminum, Davis listed seven.
- 1876 – 1885: Davis cataloged none of the 50 aluminum patterns struck.

This accounting does not include 18 patterns restruck in aluminum, none of which were listed by Mr. Davis. Of the 367 aluminum patterns struck by the Mint up to 1885, only 72 were included in his catalog. Amongst pattern affairs, Mr. Davis fulfilled the bidding of his Mint masters to validate patterns and to limit public and official knowledge of their vast multitudes. By his death in 1887, he had amassed a significant collection of pattern coins. His assemblage also included a restruck Class III 1804 Dollar.



Figure 18: 1878 Barber's rejected dollar pattern, J1554. This was the only pattern dated 1878 that was struck in aluminum, and is unique, J1556. (Courtesy of USPattern.com.)

During Col. Snowden's Mint tenure, over twenty-percent of the more than 1700 patterns made by 1885 were struck in aluminum. It's telling that Col. Snowden was absent from the Mint between December of 1876 and February of 1879. He left under the cloud of suspicion surrounding pattern issuance and appearance of the Class III 1804 Dollars. For the next two years he was Postmaster of Philadelphia, but returned after Mint Director Linderman's death. During his absence, only one pattern was struck in aluminum – Barber's Rejected Dollar, which is unique. (Fig. 18) Col. Snowden returned as Superintendent of the Philadelphia Mint, but only after twice refusing

appointments to Dr. Linderman's position of Mint Director. Under the 1873 Coinage Law, the position of Director was located in Washington D.C., far from his pattern endeavor and hoard. Once Col. Snowden regained control of Mint operations, his clandestine business continued and aluminum patterns were again struck. However, because of his indirect control of coining operations, past narrow escapes and vast hoard already accumulated, they were struck in lower numbers.

The striking of patterns in aluminum during Col Snowden's Mint tenure served very little official purpose. Nevertheless, from 1868 and 1885 most pattern designs and regular coinage denominations were struck in aluminum. Because aluminum was rare and costly, they were struck in very low numbers. The average rarity of those known today is about 4.3 pieces per pattern, while for all other metals between 10 and 15 pieces per pattern are known. Thus around 1,600 total pieces are known today, only slightly more than those known in gold. Of the 367 aluminum patterns, 177 had not appeared at auction before 1911. These circumstances made aluminum exemplar of pattern duplicity and exploitation.

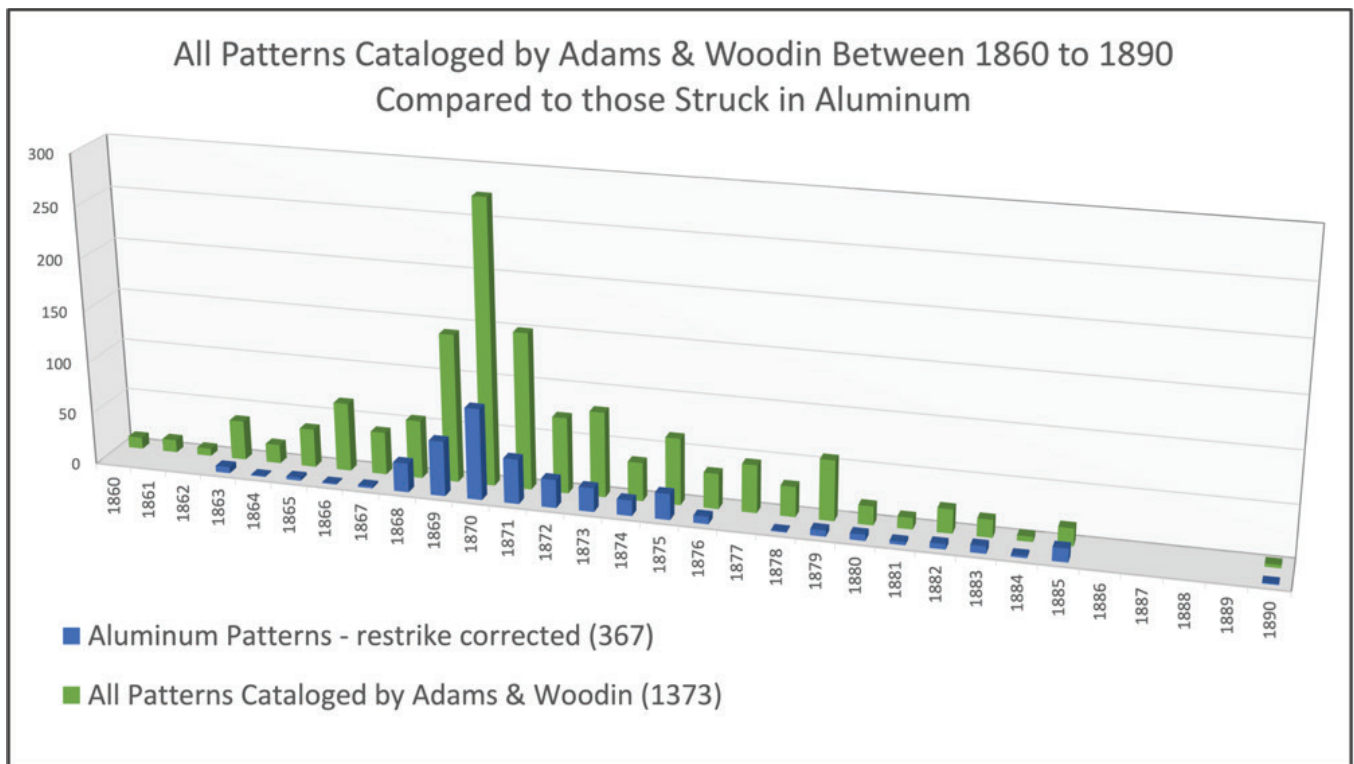


Figure 19: All patterns struck between 1860 and 1890 and cataloged by Adams & Woodin compared to those struck in aluminum. Data corrected by distributing restrikes from the early 1860's between the dates of 1869 to 1871. (Data from *Surreptitious Pattern Recognition* by Douglas Ward, 2024, unpublished.)

The paradigm in aluminum patterns is applicable to the multitude of patterns struck and re-struck in other metals between 1866 and 1885. (Fig. 19) In broader context – a span of nineteen years over which more than 1,100 patterns were created, around 400 of which had not appeared at auction by 1911. They were struck in numbers exceeding 15,000 pieces. Contained within was “*the Most Singular Lot that ever has or ever will exist,*” which was liberated from the Mint during the pattern seizure case of 1910. The Pattern Coup – informed by Col. Snowden – fronted by William H. Woodin – and plotted by Edgar H. Adams, covertly removed some 9,000 pattern coins from the Philadelphia Mint.¹⁴ Col. Snowden had orchestrated a vast personal enterprise – like an eagle poised on a bank of pattern coins. (Fig. 20)

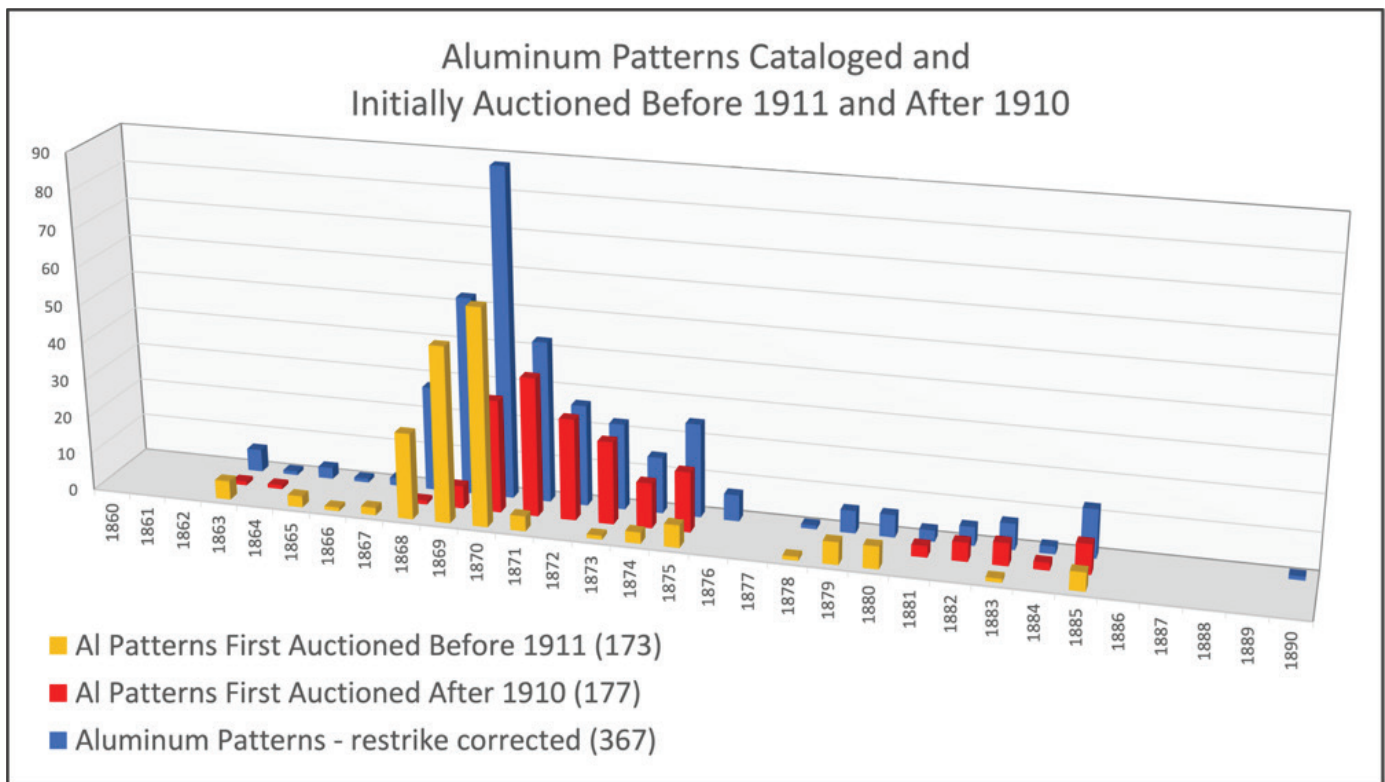


Figure 20: Chart of aluminum patterns struck between 1863 and 1890. Most aluminum patterns struck after 1870 were hoarded and would not appear at auction until after 1910. Data corrected for restrikes. (Data from *Surreptitious Pattern Recognition* by Douglas Ward, 2024, unpublished.)

In 1912, Mr. Adams and Mr. Woodin published their catalog of “United States Mint Pattern, Trial and Experimental Pieces.”¹⁵ In large part, it was based on Col. Snowden’s recounting and the Most Singular Lot. As an uncredited collaboration with him, their catalog listed over 900 patterns not included in Mr. Davis’ compilation of a quarter century earlier. Mr. Adams was a meticulous and

conscientious researcher and Col. Snowden possessed first-hand knowledge of most pattern creations, making their catalog the reference of choice for the next fifty years.

Within this context, Mr. Adams' specific accounting of the regular die trial patterns was exceedingly accurate. Considering 461 were known, only a small number went unlisted or misidentified. His assigned rarity was also accurate, with its average of 6.2 pieces per pattern comparing favorably to the 4.7 known today. For comparison, all other pattern categories were over estimated by 40% to 270%. More than half of the regular die patterns had not appeared at auction by 1911, and fewer than one-in-four were cataloged by Mr. Davis. By Mint authority, the regular die trial patterns were the least legitimate to own, let alone exist, and they held the least appeal for collectors. Considering their relative obscurity, Mr. Adams' correlation is so good it could only have been compiled from an inventory.

Considering this accuracy and that more than one-in-three regular die trial patterns, or 161, were struck in aluminum – why did Mr. Adams expressly list the aluminum die trial patterns of the 1876 Trade dollar and gold coinage? They constitute a seven-pattern series – Trade and gold dollars, gold three-dollar, quarter and half eagles, eagle and double eagle. (Fig. 21) The Centennial Celebration was a special year for Col. Snowden. A year in which he clandestinely struck thirty-four patterns of various dollars and gold coinages. Twenty-nine of these were unknown until 1911 and only one was cataloged by Mr. Davis. The unmasking of this endeavor by the Mint Director likely prompted the Chief Coiner's two-year sabbatical. Plagued by scandal, Director Linderman could ill afford additional intrigue, his fill of which was said to have contributed to his demise.

Some numismatists believe these seven aluminum regular die patterns don't exist, as they have never appeared in public. But they were also struck in copper and those are known today, making it uncharacteristic of Col. Snowden not to strike them in his coveted metal – aluminum. While Mr. Adams might have seen them, he was certainly told on good authority that they existed, for all seven to be included in his catalog. The numismatic 'Pliny the Elder' of his time was not inclined to guessing and there are no other similar errors or omissions in his work. The knowledge he did receive was specific and must have come from Col. Snowden, since it did not include the minor denominations to match the paradigm of the previous eight years. These were his signature mementoes among the most singular – his magnificent seven. With the ring of Numismystique, these aluminum patterns are an enigma that Col. Snowden took to his grave – figuratively and perhaps literally.



Figure 21: Fantasy image of the Set of 1876 regular gold coinage and Trade dollar of the United States struck in aluminum. (Modified images compiled by the author.)

~For Now~

Bibliography & Notes

1. "United States Pattern, Experimental and Trial Pieces," by A. Kosoff, Original Edition by J. Hewitt Judd, Western Publishing Co., 1982, 7th Edition.

The Paradigm in Aluminum Patterns

2. "The Fantastic 1804 Dollar," by Eric P. Newman and Kenneth E. Bressett, Whitman Publishing Co., Racine, WI, 1962, p78.
3. USPatterns.com, Research Center, by Andy Lustig and Saul Teichman, updated April 6th, 2025."
4. Mint Chief Engraver James B. Longacre to Treasury Secretary Hugh McCulloch, June 12th, 1867, Treasury Archives, Newman Numismatic Portal.
5. Mint Director Henry R. Linderman to Treasury Secretary Hugh McCulloch, June 14th, 1867, Treasury Archives, Newman Numismatic Portal.
6. Mint Director Henry R. Linderman to The American Numismatic Society, July 7th, 1867, Treasury Archives, Newman Numismatic Portal.
7. "Catalogue of a Valuable Collection of United States Coins," Cataloged by Lyman H. Low & Co., New York, June 28th, 1887.
8. "Catalogue of a Valuable Collection of United States Coins," Cataloged by The Scott Stamp & Coin Co., New York, February 28th, 1888.
9. "Surreptitious Pattern Recognition," by Douglas Ward, unpublished, February, 2024.
10. Mint Director Henry R. Linderman to Treasury Secretary Hugh McCulloch, April 6th, 1868, Treasury Archives, Newman Numismatic Portal.
11. The Cincinnati Enquirer, newspaper column, January 30th, 1869, page 2.
12. "The Fewsmith Cabinet," By Mason & Co., Coin Dealers, Philadelphia, October 4 – 7, 1870, lot 1381.
13. "Pattern and Experimental Issues of the United States Mint," by Robt. Coulton Davis, PH.G., The Coin Collector's Journal, Scott & Company, New York; 1885, Vol. X, pages 97, 113, 129, 145, 161, 171. 1886, Vol. XI, pages 11, 40, 56, 72, 87, 101, 118. 1887, Vol. XII, page 6.
14. "Of Patterns, Plots and The Most Singular Lot," by Douglas Ward, American Numismatic Society Magazine, expected 2025, Issue 2.
15. "United States Pattern, Trial and Experimental Pieces," by Edgar H. Adams and William H. Wooden, The American Numismatic Society, New York City, 1913.