

Washington & Franklin Coils

Flat Plate and Coil Waste Issues 1908-1915

The **Purpose of This Exhibit:** is to show the development of the Third Bureau flat plate coils in perforated, imperforate and coil waste format from 1908 to 1915. The exhibit will show the development of production for each issue along with the postal uses to domestic and foreign destinations.

Exhibit Plan

- I. Flat Plate Issues: Each section will include production material and postal uses of the perforated and imperforate coil issues. It is organized by denomination and orientation of each issue.
 - A. 1908 Double Line Watermark
 - 1) Perforated 12 Issues
 - 2) Imperforate Issues
 - B. 1910 Single Line Watermark
 - 1) Perforated 12 Issues
 - 2) Imperforate Issues
 - 3) Coil Waste Issues
 - C. 1910 Single Line Watermark
 - 1) Perforated 8.5 Issues
 - D. 1912 Single Line Watermark
 - 1) Perforated 8.5 Issues
 - 2) Imperforate Issues
 - E. 1914 Single Line Watermark
 - 1) Perforated 10 Issues
 - 2) Coil Waste Issues
 - F. Epilogue: Stickney Rotary Press/Rotary press coils.

Historical Significance

The development of the Third Bureau coil issues is directly tied to the industrial revolution. The invention of vending and affixing machines, and the businesses associated with their use, were responsible for encouraging the production and development of government coils. The following reasons contributed to the development of coils.

- Vending machines made it convenient for the public to purchase stamps.
- They reduced the cost of clerks and the branches needed within the city.
- Affixing machines speed up the process of applying stamps to mail.

Coil Development

Coils were made from the same sheets printed to produce sheet stamps, but they came after the series of 1908 was started and were not apart of the original design process. Coils were an adaptation of a stamp design that already existed.

What Is Shown

The exhibit will show production and postal uses of the flat plate perforated and imperforate coil issues.

What is Not Shown

Archival material such as preliminary designs, essays, trial colors, large and small die proofs, and plate proofs were designed and made for the production of sheet stamps, not coils.

Philatelic Importance

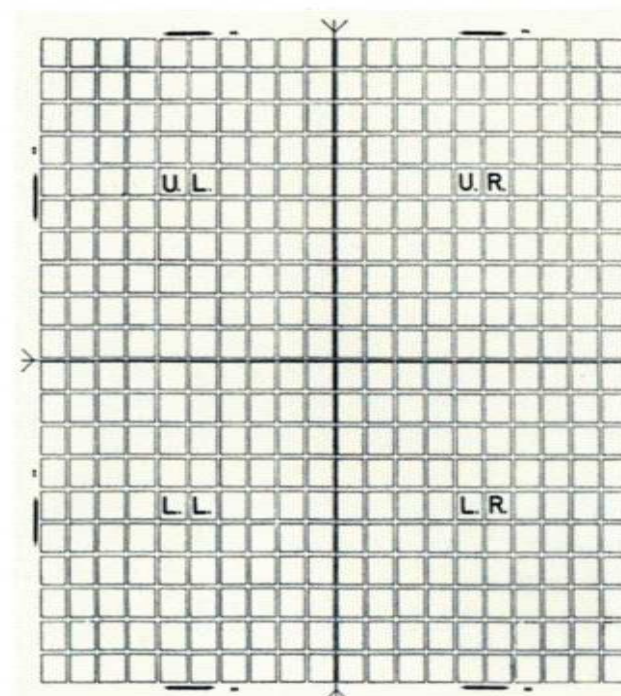
The United States was one of several countries that experimented with, and developed coil stamps around the turn of the century in 1900. The interest in vending machines and their development saw a number of countries such as New Zealand and the Netherlands experiment with stamps used in vending machines. England followed suite with their version of coils, sheet stamps trimmed and pasted together to form coils. The United States took it a step further by developing coil production using imperforate sheets that were perforated, stripped and constructed into the first true coil stamps used in vending and affixing machines. This lead to further development in producing coils and the rotary press machine. The new machine created interest from several more countries which took up the production of coils.

The production of coils also played an important role in creating collector interest in a new variety of stamps. The first two issues of coil stamps were not well received, but by the third issue, collectors realized coils were indeed a different variety to collect. This was due in part to the third issue having gauge 8.5 perforations which was unique to the 1910 coil issue. These perforations were not used for any other format such as sheet stamps or booklets. The production of coils created over 400 new issues to collect along with many different production varieties such as paste-ups, trailer & leader strips, line pairs, shades, design spacing, and printing errors.

Key Items are Matted in Red

Major items are noted with certificate number, while other important items will be identified with an asterisk * to indicate expertization.

Flat Plate Coils



U S P S

Actual size of the letters.

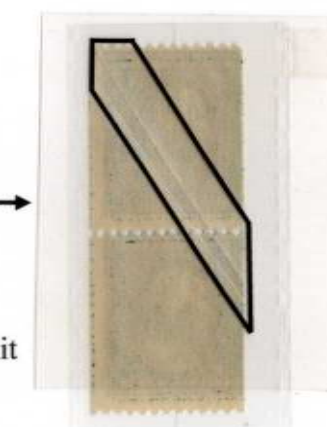
First issue was printed on double line watermark paper.



Preprinting
Paper Fold

- The first plates used to produce coils had 2mm horizontal spacing between all designs.
- Coils from the first plates can be identified by 4000 series plate numbers.
- The Star plates soon followed the first plates due to a production problem with spacing.

Post Printing Paper Fold



Highlighted area
showing lack of gum
on actual coil stamps.



Enhanced color enlargement with
outline of detailed area showing
paper folds.

Production Sequence

- Design was printed
- Paper was folded
- Gum applied to paper
- Paper was unfolded.
- Paper was perforated and slit into coils.

*

Flat Plate Coils

- The Bureau produced 5 different issues from 1908 to 1914.
- The coil stamps were produced from existing sheet stamp stock.
- Production changes made in watermark, perforation gauge, plate configurations, and coil construction created many new varieties.
- A total of 32 different varieties of flat plat perforated coils were issued.

1908 Issue



Reverse paste-up, tab with imprint.
See next page for details on coil
construction. **PF 513608**

* All perforated coil pairs

Perforated Gauge 12

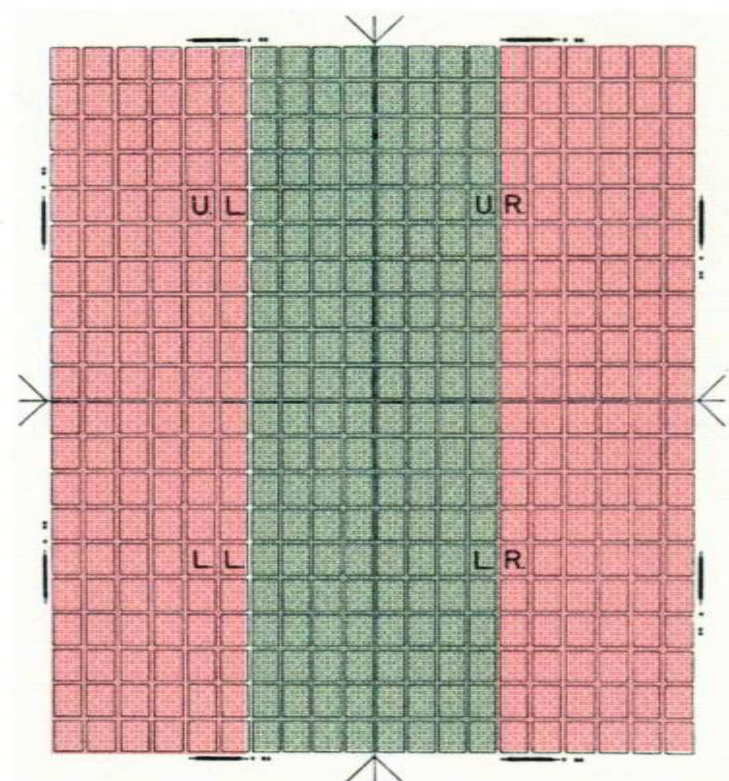
The 1908 issues consisted of five values. The 1, 2, 4, and 5 cent denominations were issued in both vertical and horizontal format. The 10 cent denomination was only issued in horizontal format.

Major Production Characteristics of 1908 Series

- 1) Printed on double line watermarked paper.
- 2) First panes of 400 had 2mm horizontal spacing between designs.
- 3) Later issues of the 1, 2, 3, and 4 cent values were printed on Star plates.
- 4) Star plates had varied spacing of 2mm to 3mm between designs.
- 5) Panes were cut into strips of 20.
- 6) Strips were pasted together by hand and rolled into coils of 500 or 1,000.
- 7) The entire process took 17 workers to complete the task.

Imperforate

The 1908 issue consists of 5 values. The 1, 2, 4, & 5 cent values were issued in vertical format. The 1, 2, and 3 cent values were issued in horizontal format. The 1908 issue was printed on double line watermarked paper.



2mm

Inner 8 rows of plate had 2mm spacing.

3mm

Outer 6 rows on each side had 3mm spacing.

400 Subject Star Plate Pane

The shaded areas show how the Star Plate spacing was set up. The idea behind the varied spacing was to solve the paper shrinkage problem. The varied spacing created 2mm and 3mm spacing between stamp designs.



2 mm



3 mm

Bureau Imprints



- The Bureau continued the practice of the Bank Note companies by placing their imprints in the margins.
- The Bureau imprint was discontinued in 1911.
- The reconstructed strips show the full Bureau imprints from the Star plates.



Plate Numbers

Plate numbers identify which plate the issue was printed on. Plate numbers occur twice on the average in a 500 coil.



Early 2mm Plate

The 4000 plate number comes from the first 2mm plates used to produce the 1908 issue. PF 561624



Partial Plate Number

Usually the left margin is trimmed off closer to the frame line before being pasted together with the next strip. In this case part of the plate number is visible on the left edge of the right stamp.

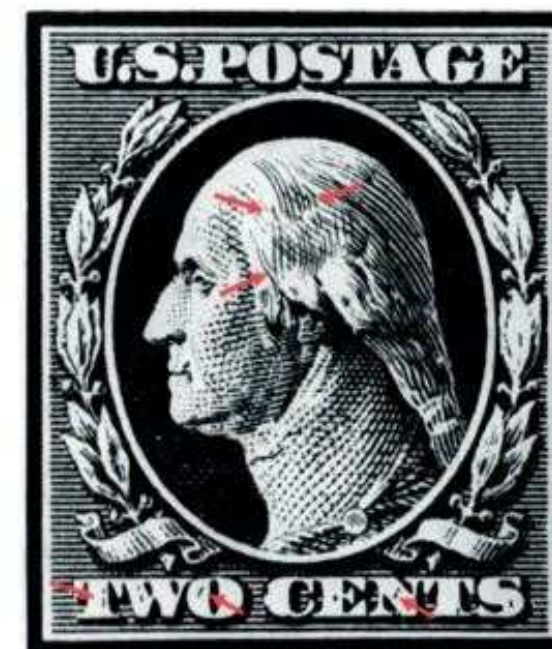


Guideline & Arrow

The purpose of the guideline & arrow was to show the Bureau workers where to separate the 400 subject pane. The two strips of four show the vertical and horizontal guidelines from the center of the pane.



Discovery copy of unreported plate number.



The 1 Cent Foreign Entry

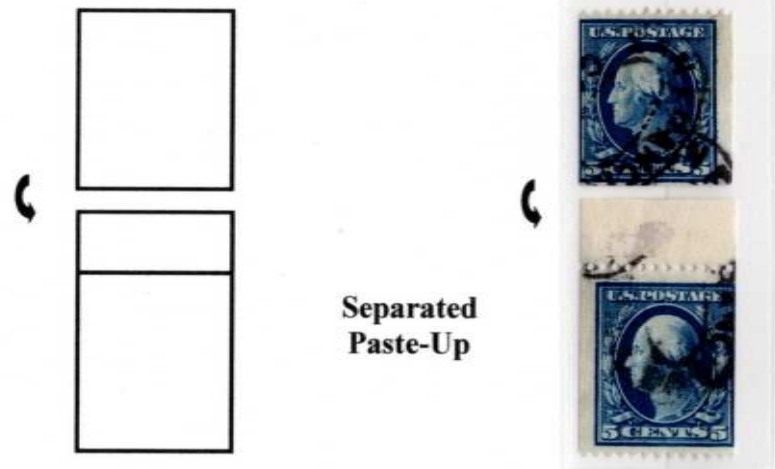
The cause of the 1 cent foreign entry on the 2 cent issue occurred when a Bureau worker mistakenly entered a 1 cent die onto a 2 cent die. The worker tried to erase the engraving lines, but left a number of them behind. This variety only occurs on plate 5299, fourth position down from the top. The enlarged scan shows the extra engraving lines found on this printing variety. PF 319636



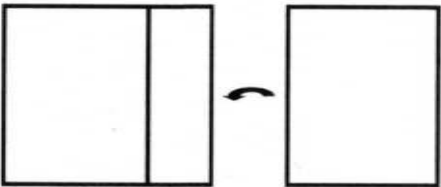
New Production Variety

Note, the pinhole in the margins of the separated paste-up. This is a new production discovery where the pinhole has been found on paste-ups with the guideline and arrow from hand assembled coils. It has been determined the pinholes could have been from something that held down the pane of 400 as it was put through the stripping machine. This marking has only been found on the 1908 and 1910 hand assembled coils.

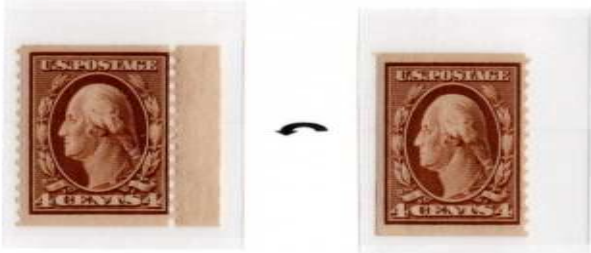




Coil Construction - Vertical Paste-Up



Paste-Up Diagram



Separated Paste-Up

Coil Construction - Horizontal Paste-Ups

The key difference between vertical and horizontal coil construction was the direction the sheet was perforated and which margins were trimmed off. Other wise, the process was the same and took as many workers.

- Reverse Paste-Up Construction-Horizontal Coils**
- Right margin of 400 subject pane was trimmed off.
 - Left margin was left on the 400 subject pane.
 - Panes were cut into strips of 20.
 - The right end of the strip was pasted over the tab on the left end of the next strip of 20.



Paste-Up Diagram



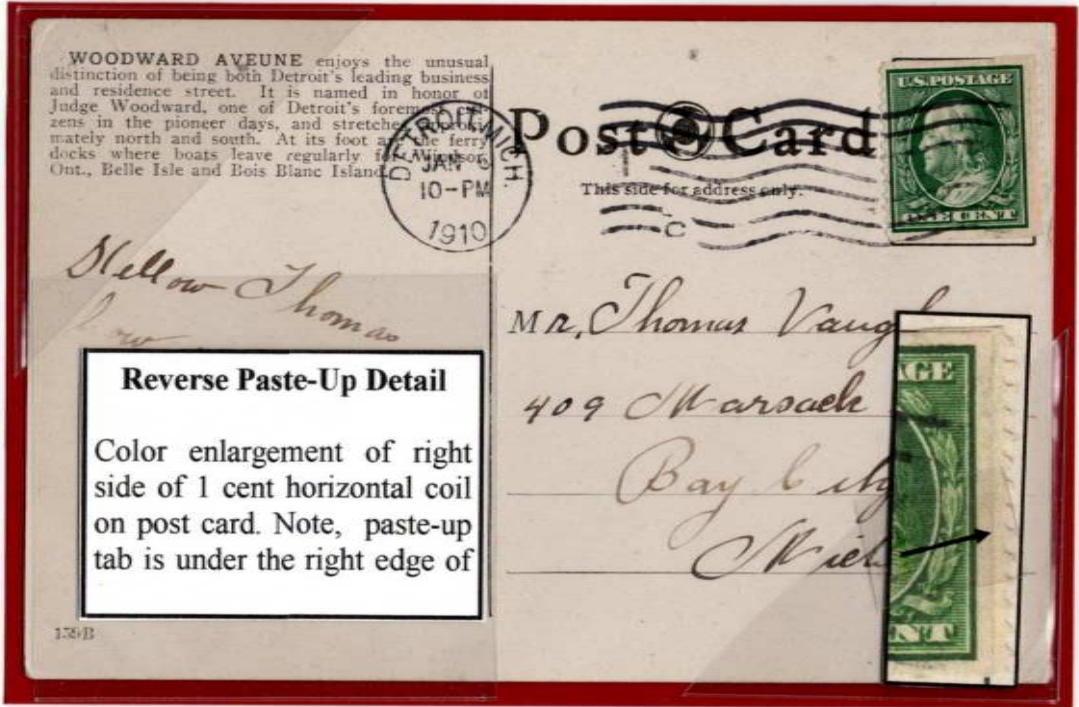
Only Recorded Plate Number with Tab on Left

This plate number pair is from a reverse paste-up strip of the one cent horizontal coil. PF 482468

- Step 1: The 400 subject pane was passed through a machine and perforated horizontally.
Step 2: The bottom margin was trimmed off at the frame line of the design.
Step 3: The top margin of the pane was trimmed leaving about 1/4 inch.
Step 4: The sheet was then passed through a machine that cut it into 20 strips.
Step 5: The bottom of a strip was then pasted over the top tab of another strip.
Step 6: This process continued until there were enough to make a coil of 500 or 1,0000.
Step 7: A trailer strip was attached at the beginning and a leader strip at the end.
Step 8: The long strip was rolled up and sealed by the leader strip.

This process of hand assembly took 17 workers to complete the task.

Only Recorded Use of a Reverse Paste-Up
PF 278274



APEX 51473

Only Recorded 4 Cent Reverse Paste-Up

The pair on the left is a usual paste-up pair, the pair on the right is the reverse paste-up pair. Note, the arrows point out the tab of the paste-ups.



Trimmed paste-up

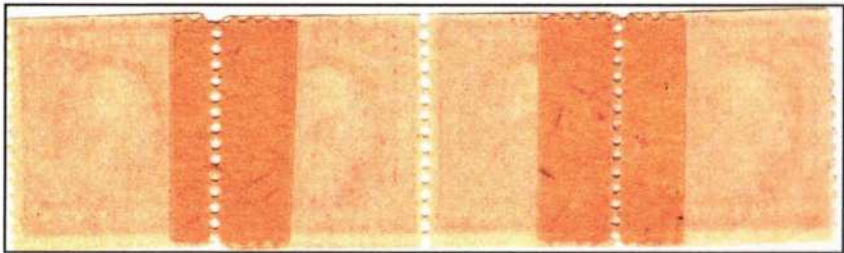


Trimmed Paste-Up

The top edge of the paste-up strip of four shows how the workers at the Bureau trimmed off the excess paper so the coil edges would line up neater. Due to the hand assembly of the coils the edges were sometimes out of alignment.

Unique Double Repair Splice

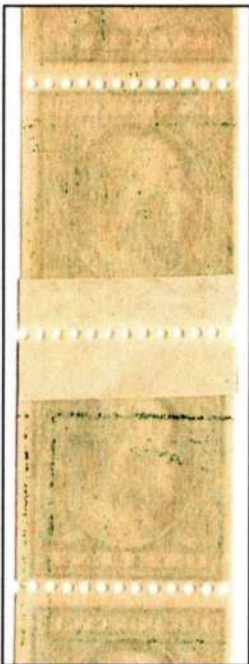
Due to the fragile nature of gauge 12 perforations, the coil would sometimes separate in production. A perforated piece of craft paper was used to repair the break. Note, the thumb print from the Bureau worker who repaired the strip.



Color photo copy of reverse side of double repair splice. Note, the perforated craft paper used to repair the two breaks.

Splice

Splice



Color photo copy of reverse showing splice repair with a perforated strip of stamp paper.



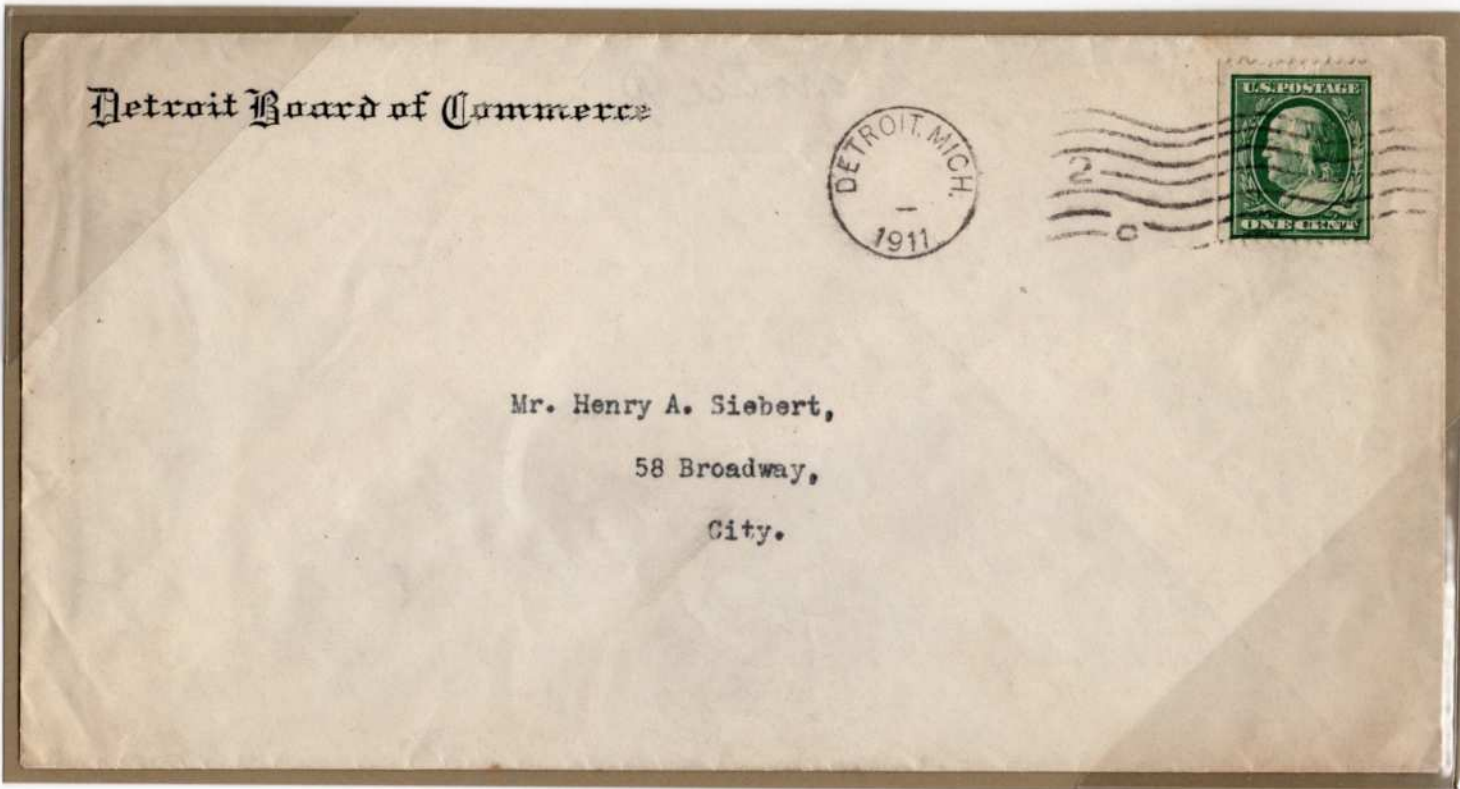
Trailer Strips

Leader & Trailer Strips

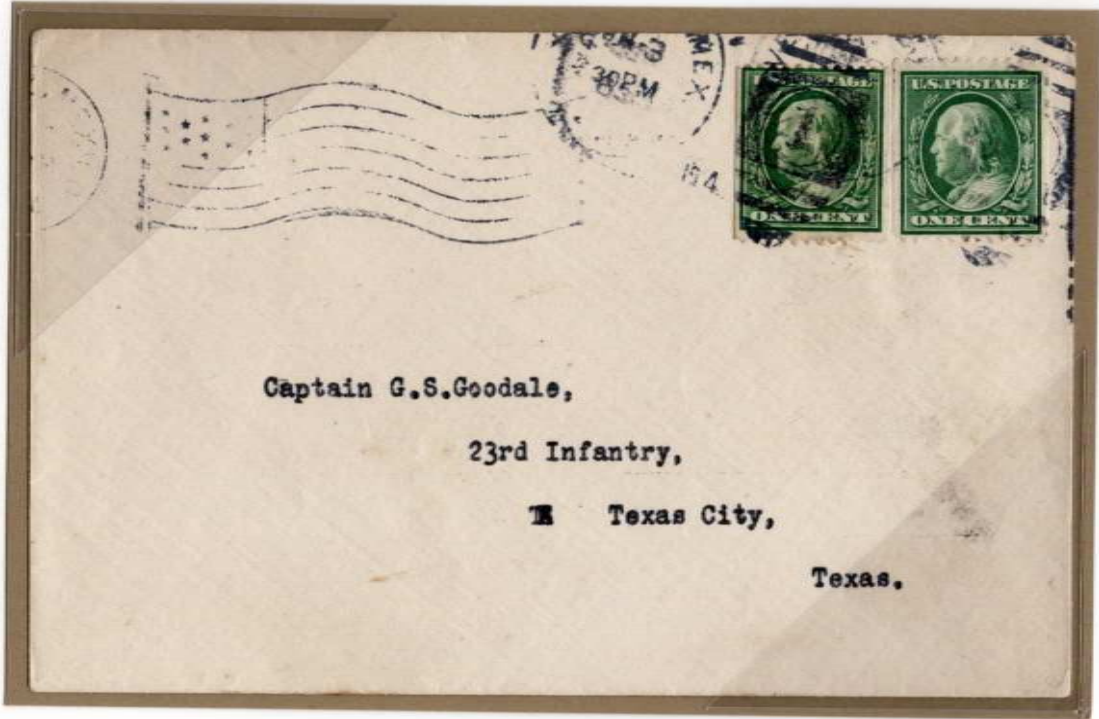
A piece of craft paper was attached at the beginning of the roll and the end. The trailer strip formed the center, or core of the coil. The leader strip was attached at the end and sealed the coil until it was used.



First class, 1 cent per piece.



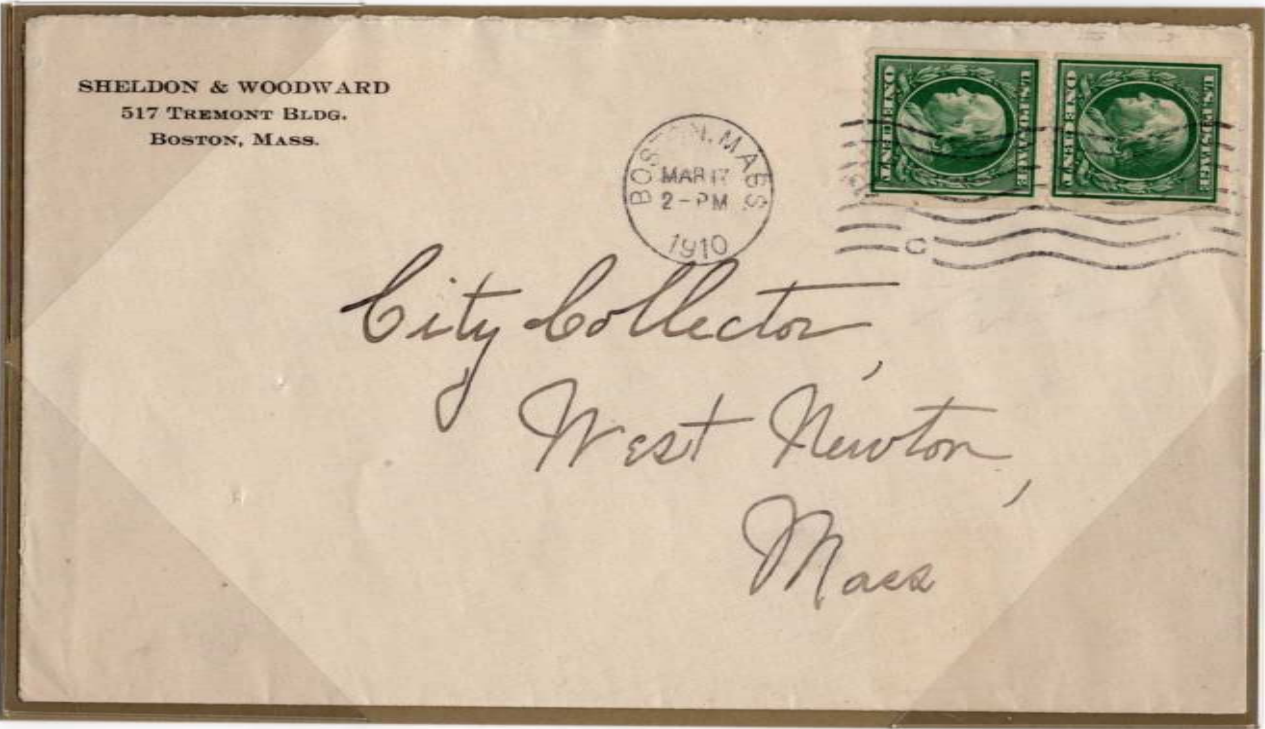
Third class, printed matter, 1 cent per 2 ounces.



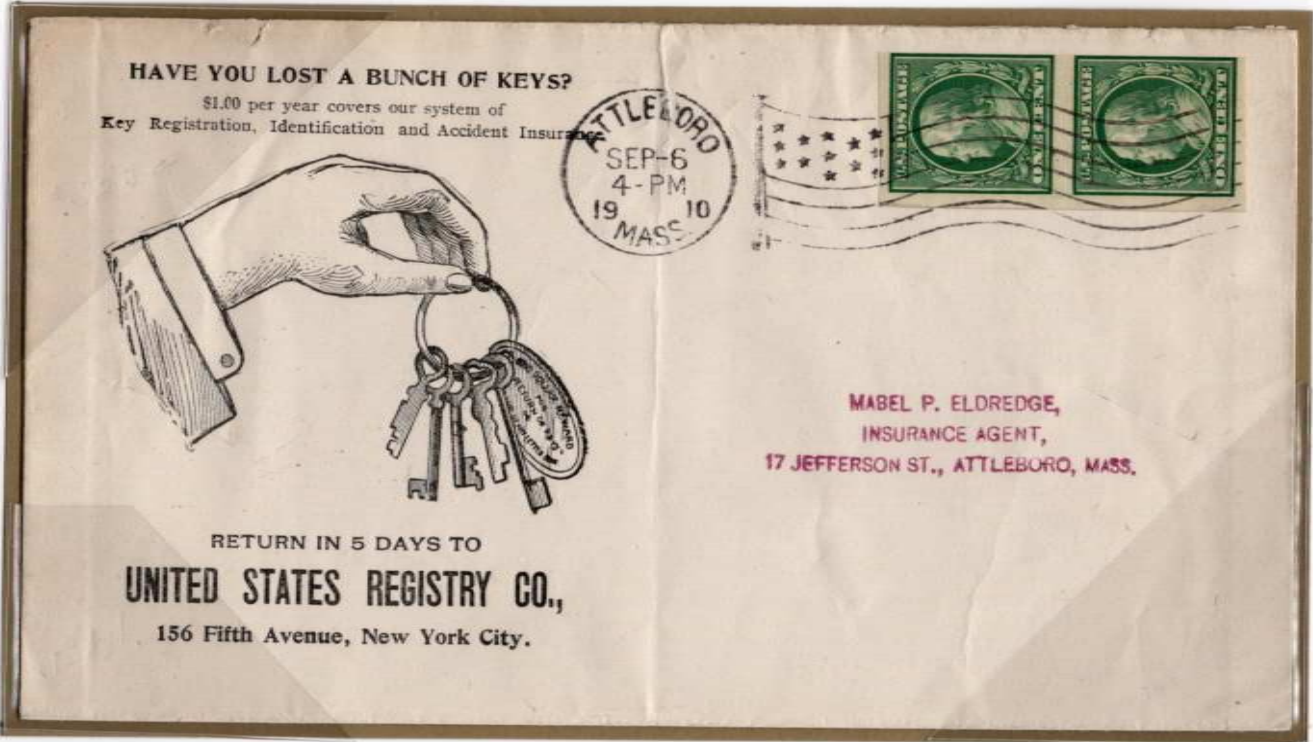
U.S. Postal Agency
First class, 2 cent per ounce. Mailed from
Vera Cruz, Mexico to the United States.



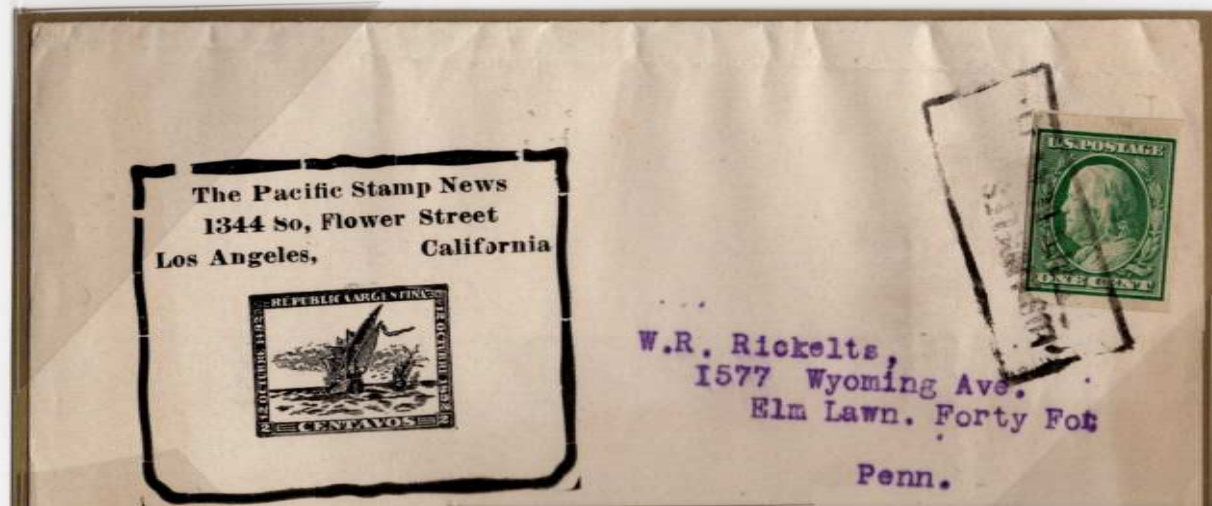
First class, 1 cent per piece.



First class, 2 cent per ounce.

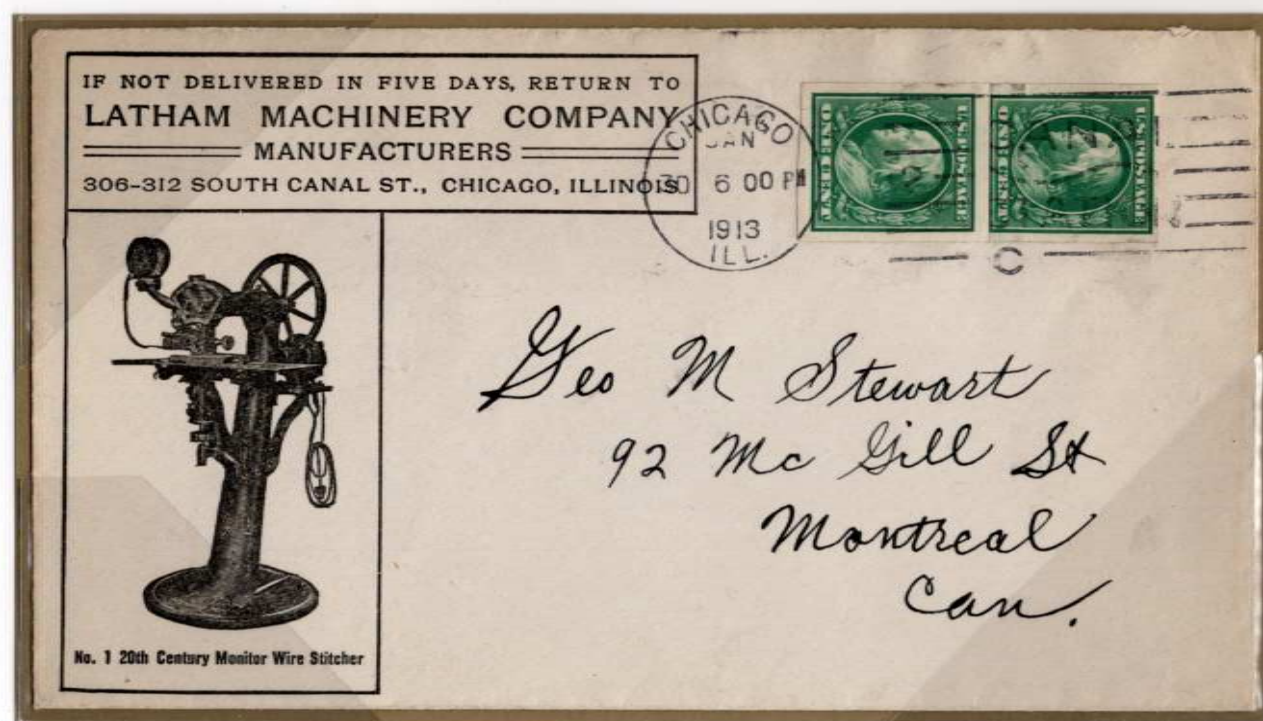


First class, 2 cents per ounce.

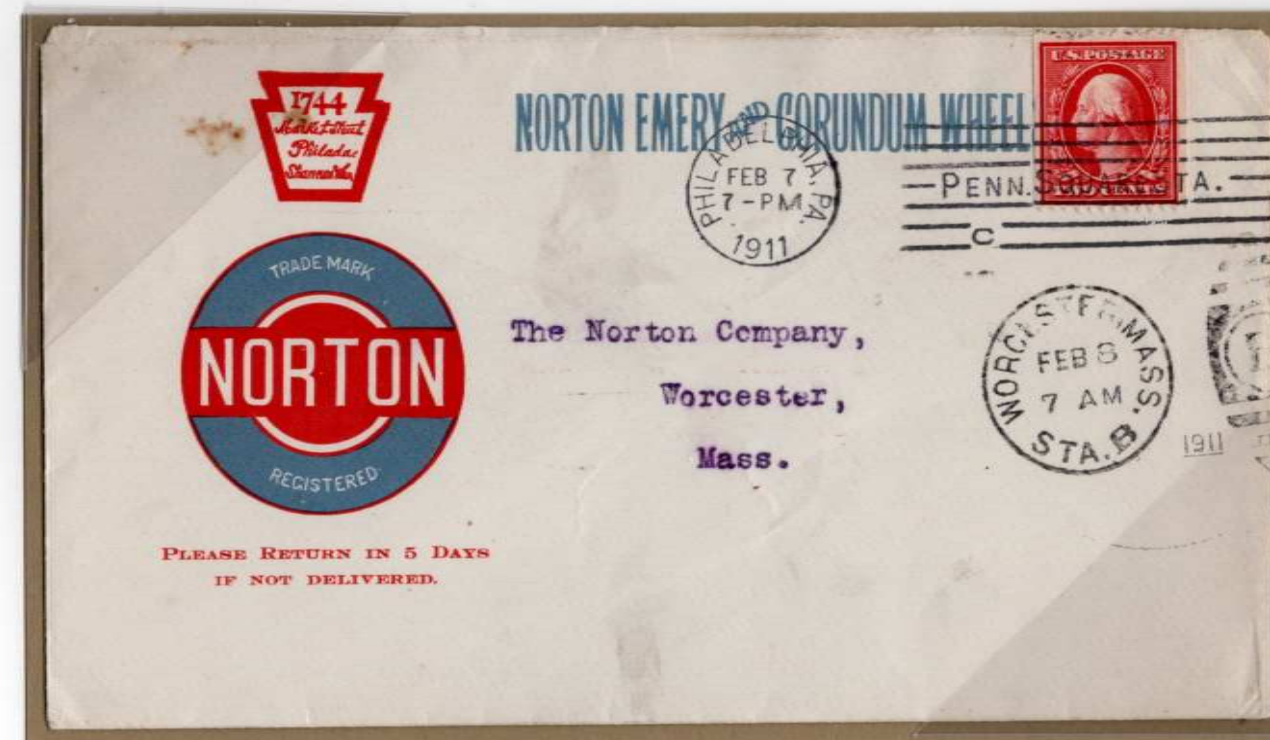


Third class, printed matter rate, 1 cent per 2 ounces

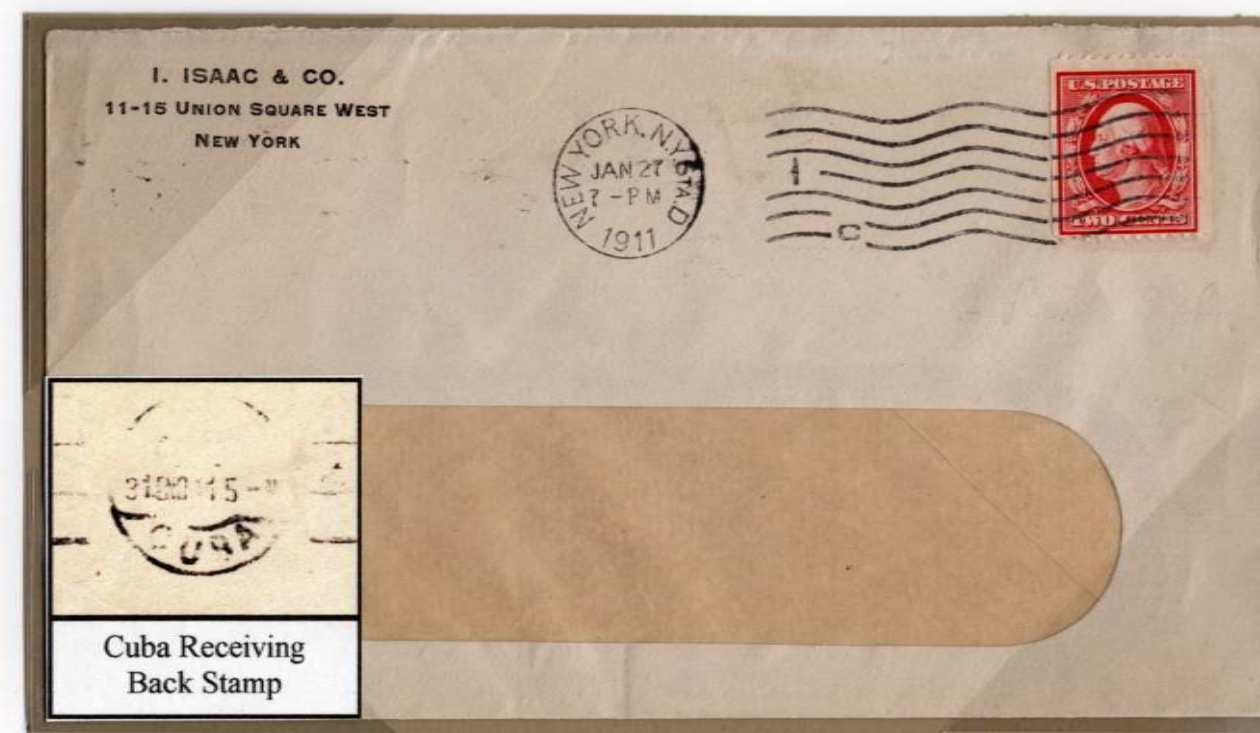
Third class, International Printed Matter rate, 1 cent per 2 ounces.



First class, treaty rate, 1 cent per 2 ounces.



First class, 2 cents per ounce.



First class, treaty rate, 2 cents per ounce.

Vertical Format



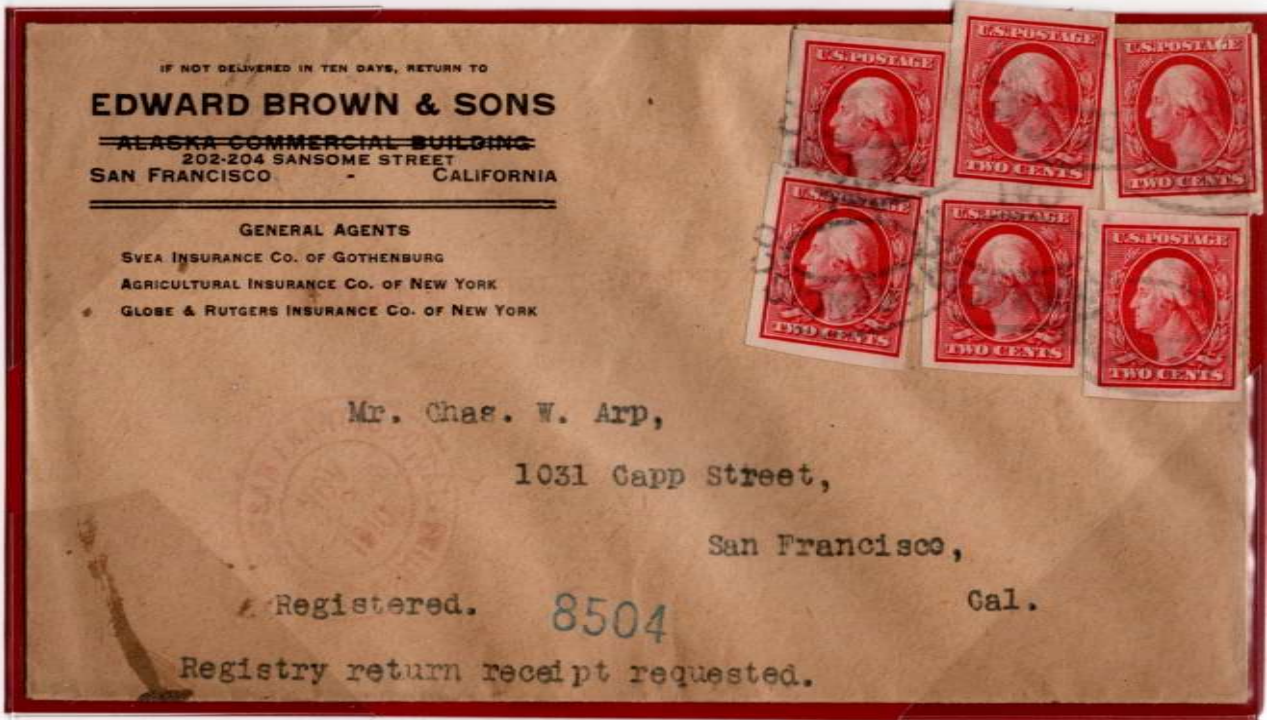
First class, 2 cents per ounce.



First class, UPU, 2 cents per piece.



First class, triple weight, 2 cents per ounce.



Largest Recorded Franking
First class, registered, 2 cents plus 10 cents registry fee.
Registry cancel 11/22/1910, San Francisco, California.

Vertical Format



Earliest Documented Use

First class registered, 2 cents plus 10 cents registry fee. March 22, 1912 New York Registry cancel. **Apex 156672**

One of 5 Documented Uses



Two of Five Documented Uses

This is the only example sent to a foreign destination **PF 513441**

German Treaty Rate

First class, double weight, 2 cents per ounce plus 10 cents registry fee. New York, U.S. foreign oval back stamp, May 11, 1912. The treaty rate was in effect from January 1, 1909 until February 5, 1915.

Vertical Format



Warren Babcock, the sender, was responsible for first reporting the AEF booklet panes. He was on the ship to France when he discovered the new booklet panes. Warren became a supplier of these booklet panes to dealers and collectors.

One of 8 Documented Uses

First class, 2 cents per ounce plus 10 cents registry fee. Detroit, Michigan registry cancel, May 16, 1916

PF 461352

Vertical Format



Earliest Known Use

First class, 2 cents per ounce, plus 8 cents registry fee. Registry date, June 16, 1909. Receiving back stamp June 18, 1909 Sherman, Texas. **One of 9** documented uses. PF 550772

Horizontal Format

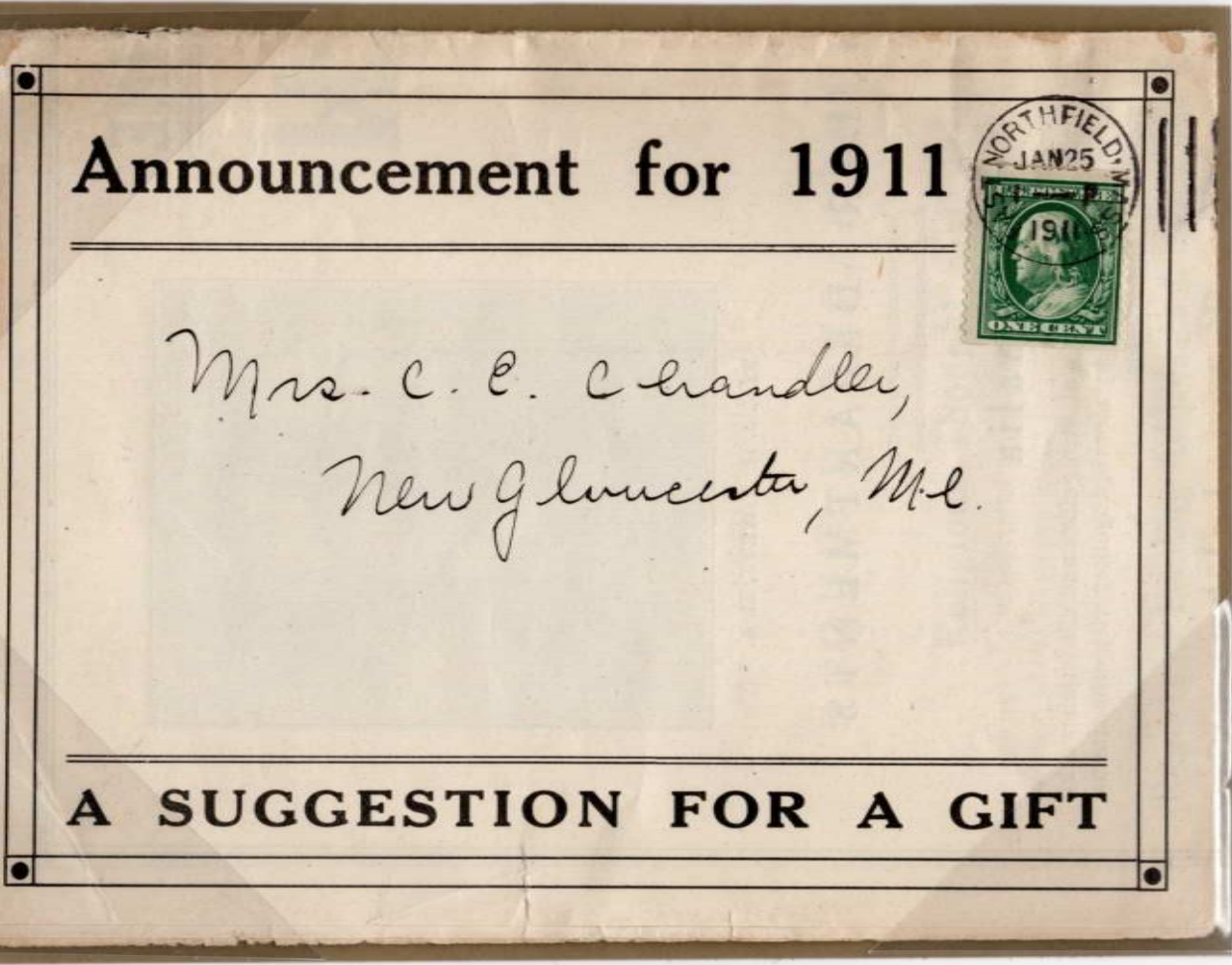
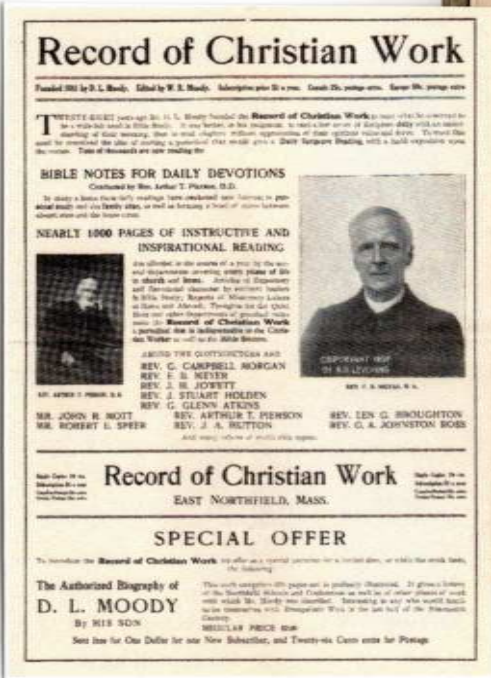


First class, 1 cent per piece.



One of 7 Documented Uses

First class, registered UPU rate, 10 cents registry fee, plus 5 cents for first ounce. New York, New York November 21, 1911 registry cancel.



Third class, printed matter, 1 cent per 2 ounces. The reduced photo copy shows part of the printed advertisement.

1908: 1c Perforated Issue

Domestic

Horizontal Format



First class, 2 cents per ounce.



First class, treaty rate,
1 cent per piece.



Largest Known Franking on Cover
First class, 2 cents per ounce plus 10 cents registry fee.

1908: 1c Imperforate Issue

Domestic

Horizontal Format



Only Documented Use
First class, 1 cent per piece.

APEX 213618

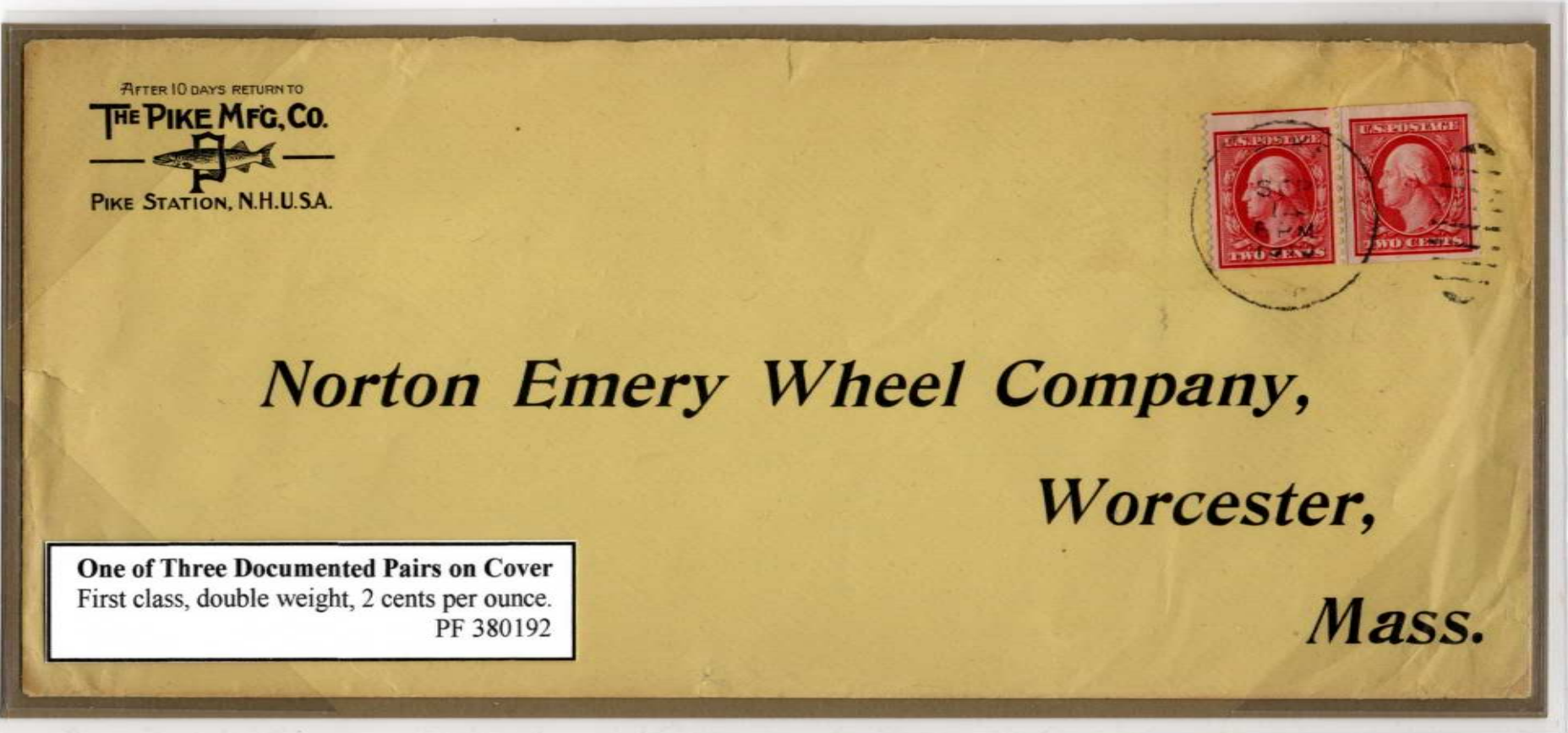
1908: 2c Perforated Issue

Domestic

Horizontal Format



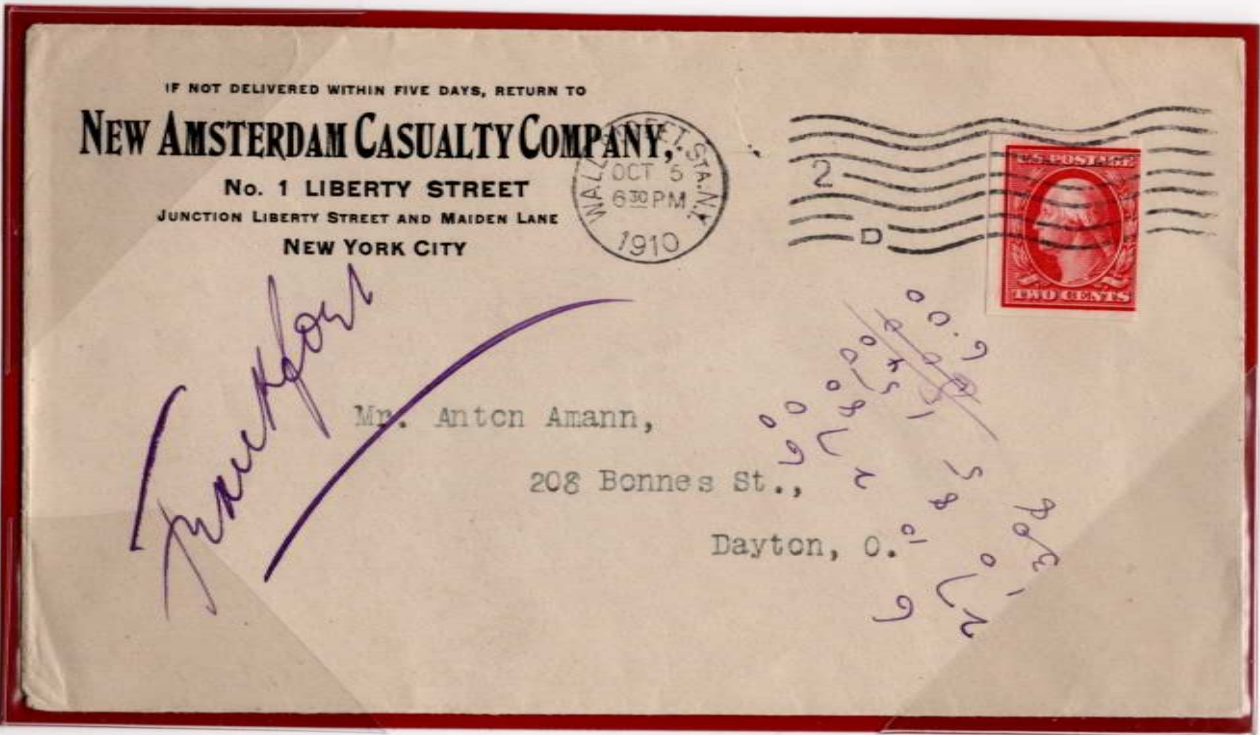
First class, 2 cents per ounce.



1908: 2c Imperforate Issue

Domestic

Horizontal Format



One of Four Documented Uses
First class, 2 cents per ounce.

APEX 209367

1908: 4c Perforated Issues

Domestic

Horizontal Format

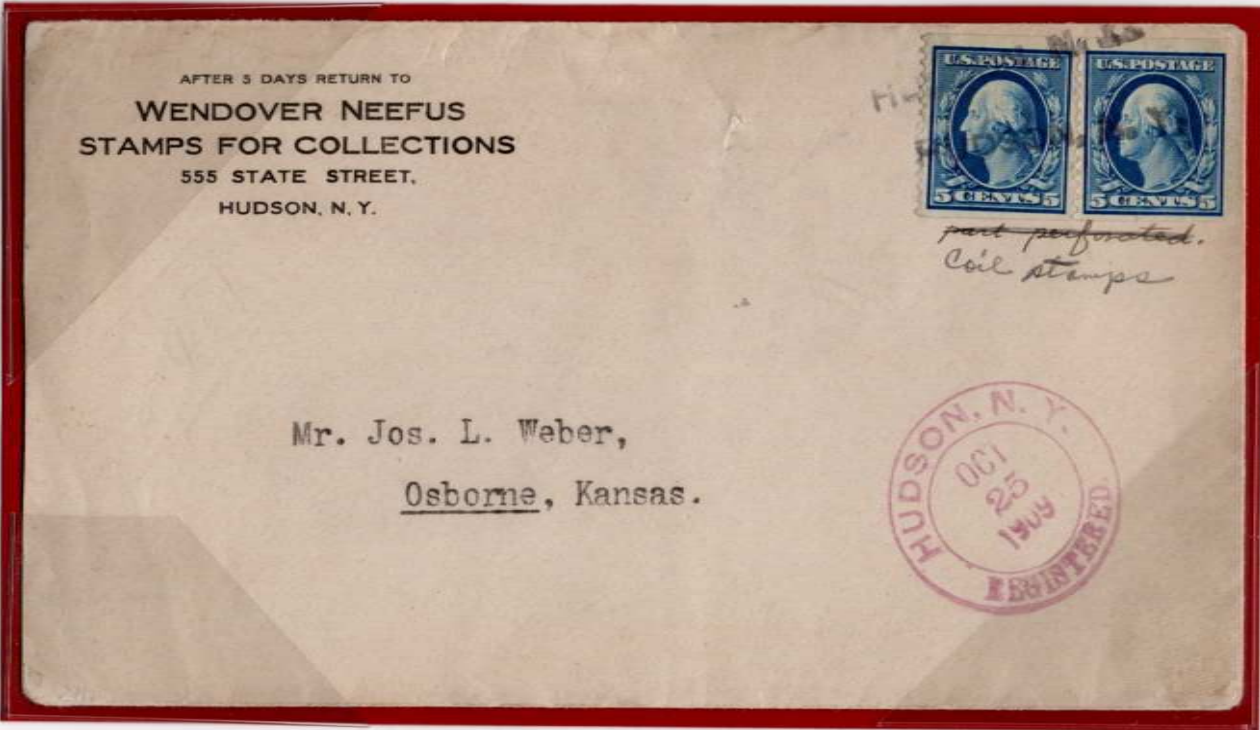


First class, registered, 2 cents per ounce plus 10 cents registry fee. Registry date stamp, August 26, 1912, Washington, D.C. One of 6 documented uses. PF 550774

1908: 5c Perforated Issues

Domestic

Horizontal Format



Earliest Known Use
First class registered, 2 cents letter rate plus 8 cents registry fee.
One of Six Documented Uses PF 205430



Largest Recorded Multiple
First class, quadruple weight, 2 cents per ounce, plus 10 cents registry fee. Pine Lawn registry cancel, May 31, 1912. Two of 6 documented uses. PF 550777

Registry Service

The registry fee for first class mail was 8 cents up until October 31, 1909.

Beginning November 1, 1909 the registry fee increased to 10 cents.

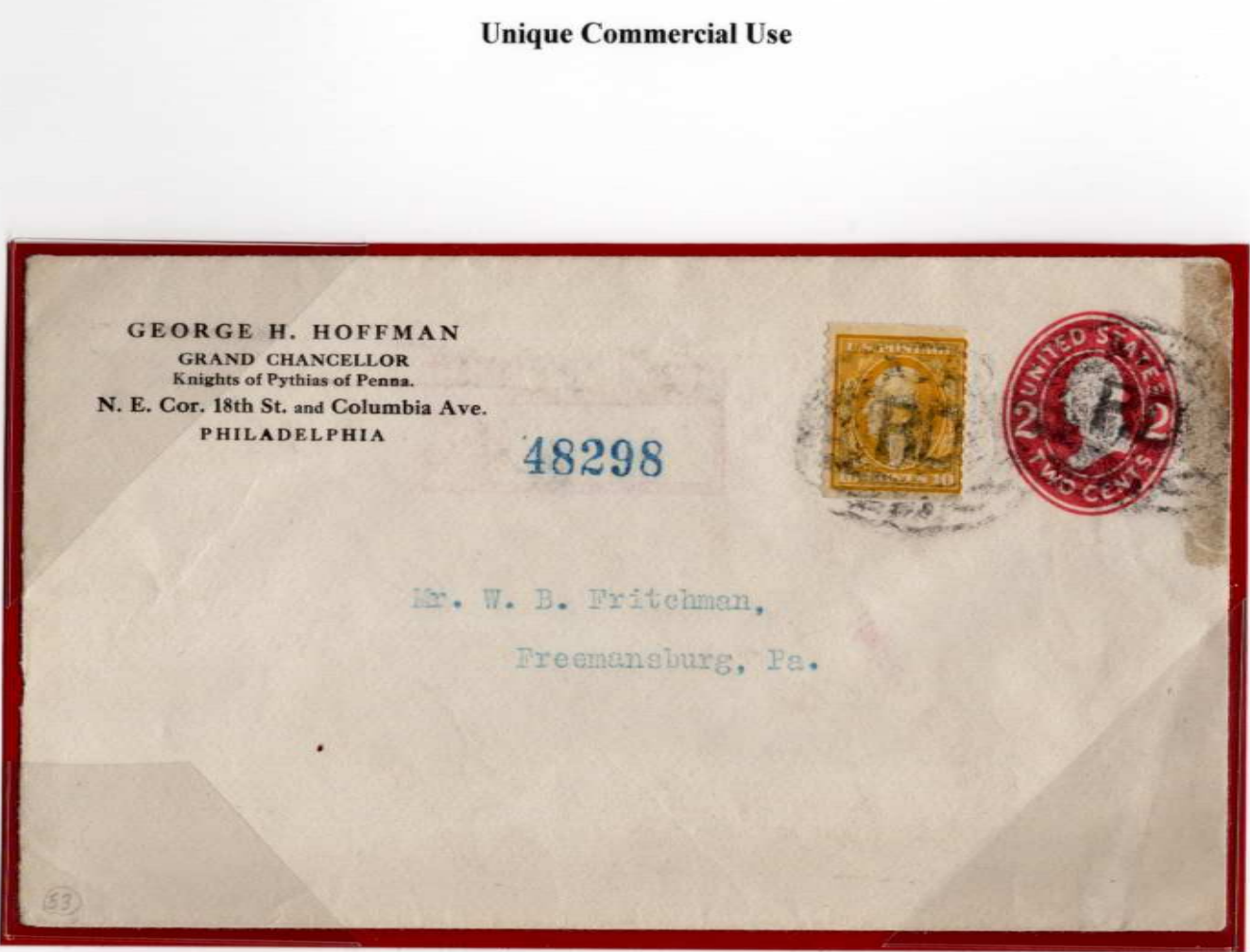


First class, 2 cents per ounce, plus 10 cents registry fee. Registry oval cancel on reverse, June 6, 1912, New York, New York. PSE 1355135



Fourth Class/March of 1910

Early fourth class mail before the change in 1913 was sent at 1 cent per ounce independent of distance as long as it weighed 4 pounds or less. This wrapper most likely sent samples of Bell & Company antacid pills. The 9 cents in postage paid for 9 ounces of samples.



Unique Commercial Use

One of Six Documented Uses

First class registered, 2 cents plus 10 cents registry fee. June 1, 1912 Philadelphia registry cancel. PF 550778

Of the six documented covers known, this is the only commercial use. The remaining examples are stamp dealer mail. The 10 cent coil only exists due to a special order made by Bell & Company to use on their mailings. They only used a few rolls with the remaining stamps being distributed to a few of the larger post offices around the country. Dealers acquired them from these post offices which accounts for the reason why the majority of the covers are stamp dealer mail.

Known Cities With Genuine Uses

- Orangeburg, New York
- New York, New York
- Chicago, Illinois
- Philadelphia, Pennsylvania
- St. Louis, Missouri
- Pinelawn, Missouri
- Washington, DC

Perforated 12
Imperforate

1910 Issue

Single Line
Watermark



*



*



*



PSE 10878

Perforated Issues

This 1910 issue consisted of three values. The 1 and 2 cent denominations were issued in vertical and horizontal format. The 3 cent denomination was only issued in horizontal format.

Major production details for 1910

- 1) Bureau changed paper from double line to single line watermark.
- 2) The 1910 issue continued to be printed on the Star Plates.
- 3) Experimented with new production process of auto winding.
- 4) It was found the gauge 12 perforations were too brittle and broke.
- 5) This experiment lead to a change in perforation gauge for the next issue.



The line strip of 8 comes from the center 8 rows of the full pane of 400. The center 8 rows of the full pane had 2mm horizontal spacing between stamp designs.



Imperforate Issues

The imperforate issues of 1910 consist of the 1 and 2 cent values in vertical and horizontal format.

1910: Production

Paper/Watermark/Coil Construction

Actual Size of Single Line Watermark Letters

2 9 2 U

Regular orientation of letters when viewed from the back of the stamps.

U S P S

Reversed orientation when viewed from the back of stamps.



Single Line Watermark

Paste-up pair, left pair with **normal orientation** of watermark, right pair with **reversed orientation** of watermark.

APEX 227054

1910 Coil Production

This issue was produced by the hand assembly method and by the new Auto-Wound method.

Auto-Wound Process

- Step 1: The 400 subject pane was perforated either vertically or horizontally, then the margins were trimmed to prepare for the paste-up stage.
- Step 2: The 400 subject pane was slit in half.
- Step 3: The half panes of 200 were pasted together until there were enough to make a roll of 500 or 1,000.
- Step 4: A piece of craft paper was attached to the beginning and end of the roll to make the trailer and leader strips.
- Step 5: The roll was placed on a stripping machine which would cut the roll into 10 coils.
- Step 6: The stripping machine also wound the coil automatically into the coil roll. This is the "Auto Wound" process.

The "Auto Wound" process is what caused many of the coils to break during production because the gauge 12 perforations were too weak to handle the tension of the machine. This is what lead to a change in the perforation gauge for the new 1910 series.

Preprinting
Paper
Fold
PF 232023





1908 Issue



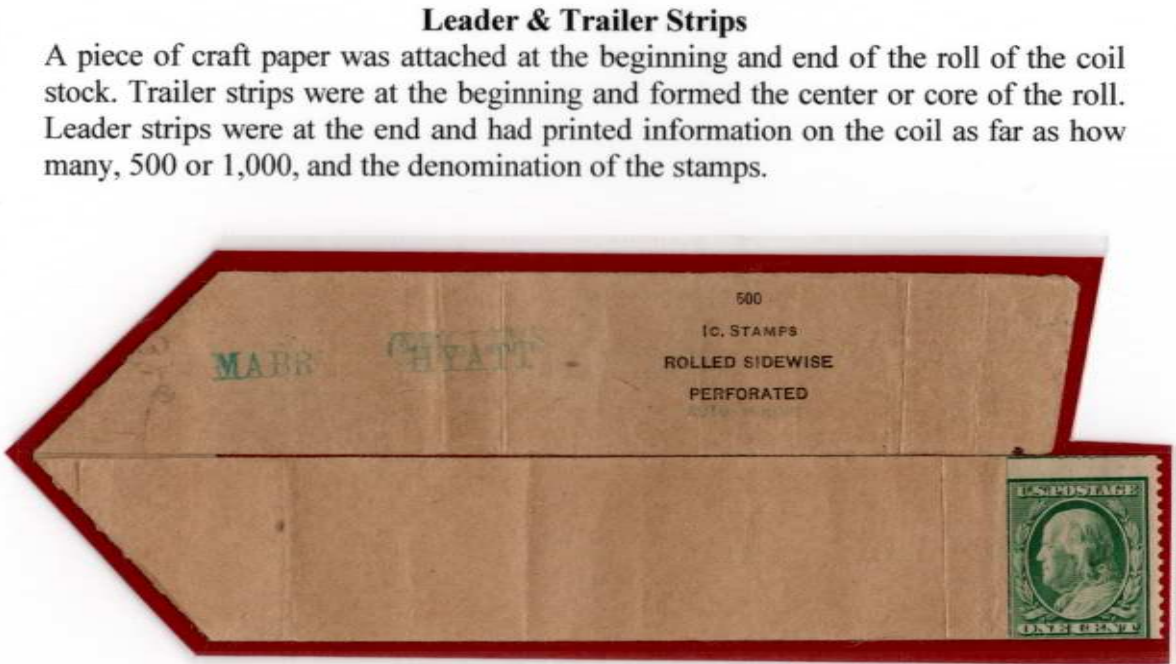
1910 Issue

Hand Assembled Paste-Up
Note the difference in the uneven edges. This 1 cent paste-up pair is from the 1908 series and is shown for a comparison to the 2 cent pair below from the 1910 issue.

Auto Wound Paste-Up
The 1 cent pair shows the clean, neat, straight edges that match up exactly. This characteristic is evidence of the "Auto Wound" process.



Bureau Imprints
The Bureau continued to place imprints in the margins. This practice continued through the 1910 series.



One of Two 1910 Perf-12 Documented Leader Strips

- Auto-Wound Process**
- The green imprint, **MABRY, HYATT**, identify the Bureau workers who inspected the coil.
 - Note, the green imprint, **AUTO-WOUND**, was added to the black imprint identifying the denomination, orientation, and how many stamps in the roll.
 - Note, the straight edges of the leader match the edges of the stamp. This is a distinct feature of the Auto-Wound process.
 - Very few leaders and trailers exist due to the nature of the weak perforations.
 - The tension of the machine when it cut the roll into strips and wound them into coils caused the perforations to break frequently.



Pin Holes



Guideline & Arrow

The purpose of the guideline & arrow was to show where the panes of 400 were to be separated. Note, the pin hole at the bottom and top of the 1c paste-up.

New Production Variety

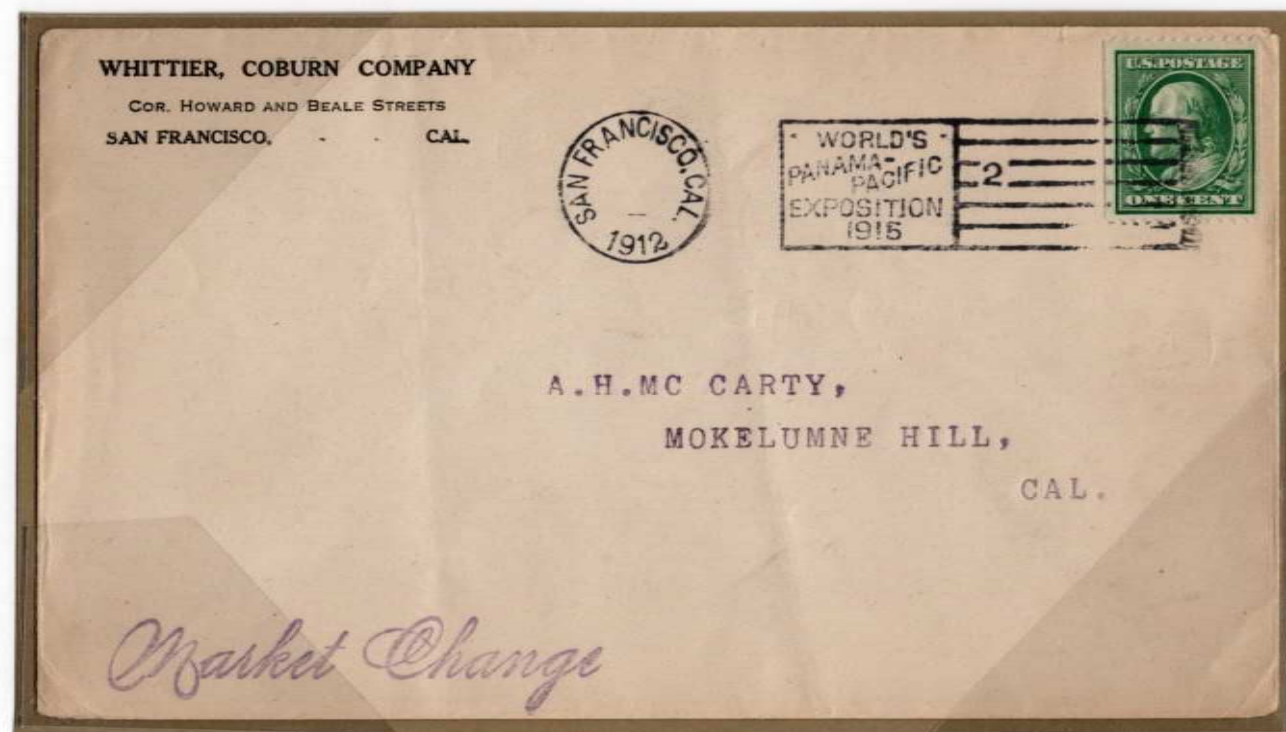
These pin holes may have been made from the pane of 400 being held in place while the sheet was stripped on the machine. It has only been found on hand assembled paste-ups. The hand assembled paste-up has these marks while the Auto-Wound example on the far left does not.



Trailer Strip with part Bureau imprint

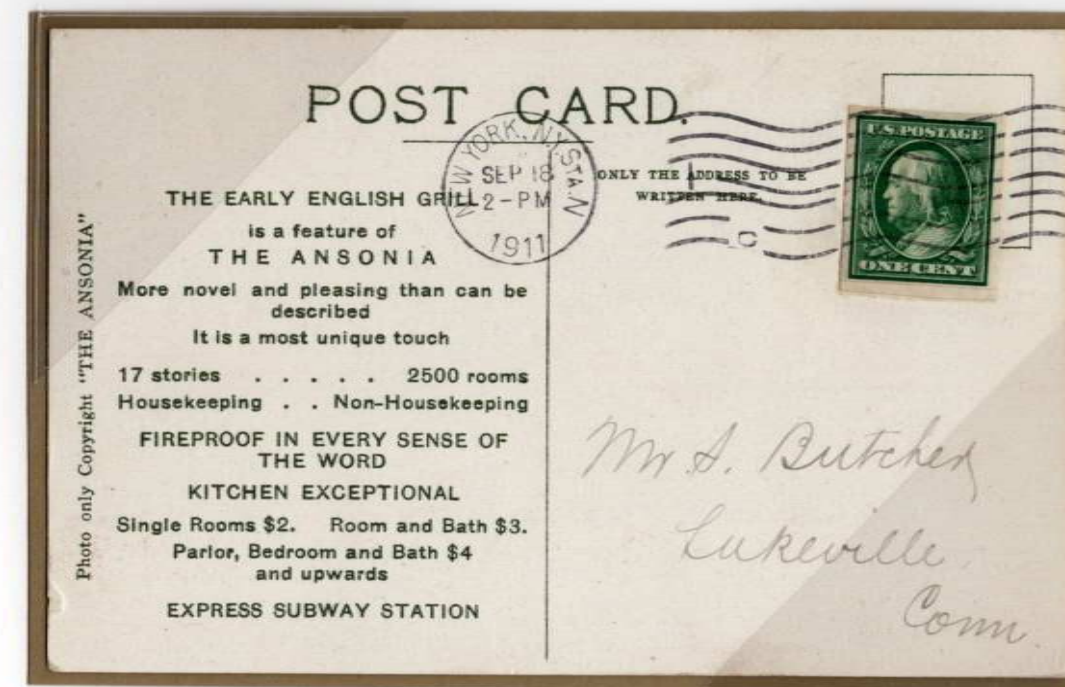


First class, 1 cent per piece.



Third class, 1 cent per 2 ounces.

PF 550775



First class, 1 cent per piece.



Largest Known Franking

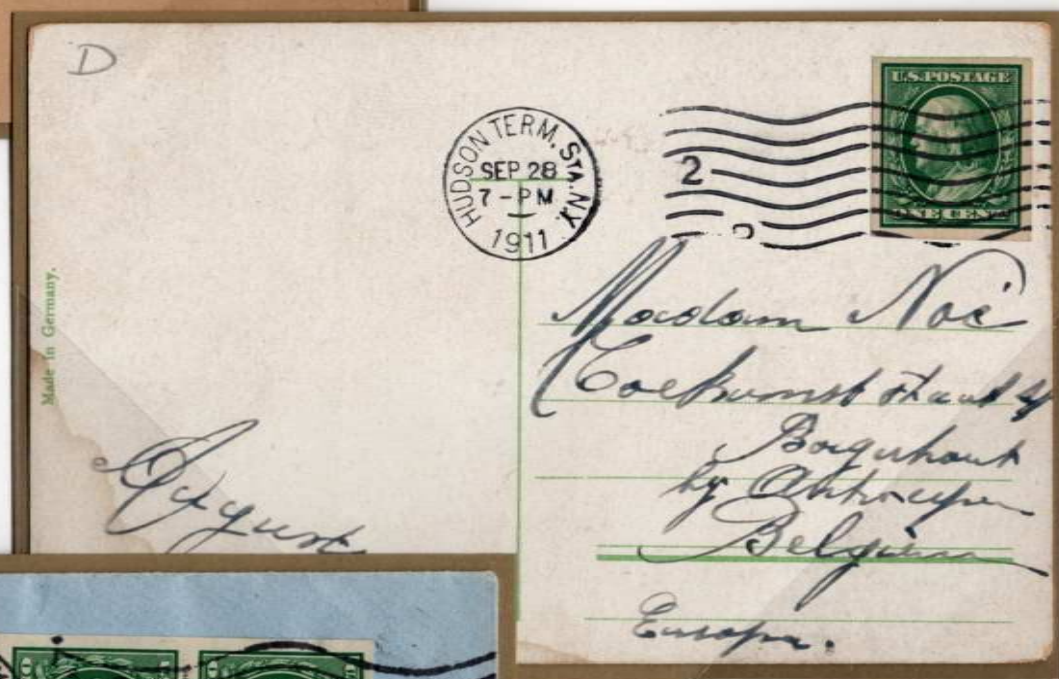
First class, 2 cents per ounce, plus 10 cents registry fee.



Third class, printed matter,
1 cent per 2 ounces.

International Printed Matter Rate

If the message on a post card was 10 words or less, it could be sent at the international printed matter rate of 1 cent per piece.



First class, UPU rate, 5 cents per first ounce.

APEX 163841



First class, 2 cents per ounce.



First class, double weight, 2 cents per ounce.

Vertical Format

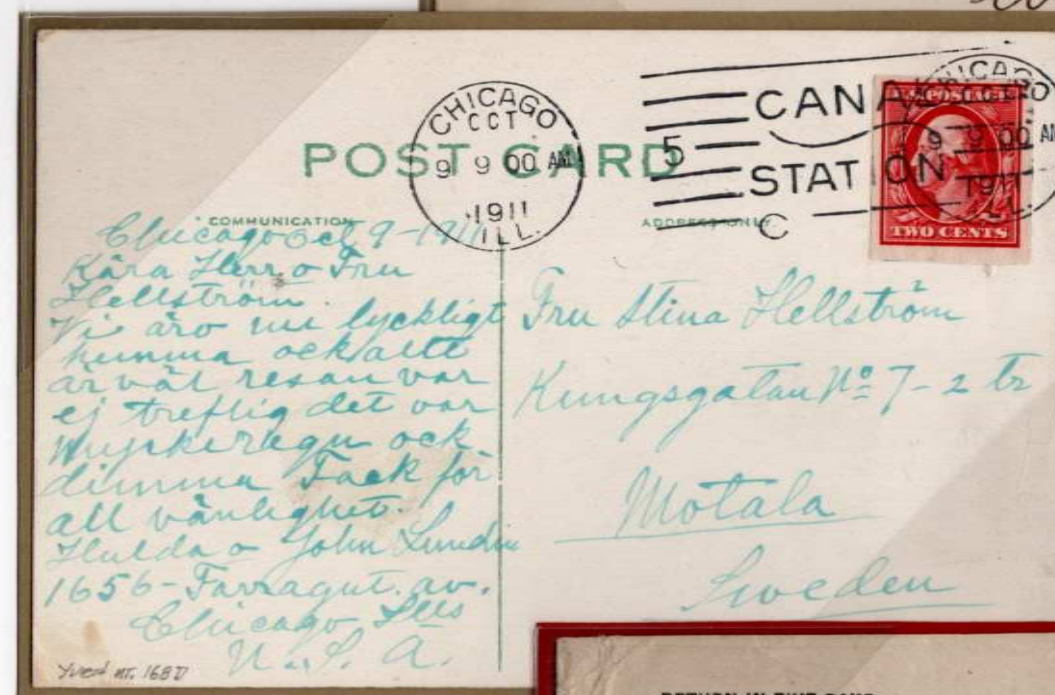


First class, double weight, 2 cents per ounce.

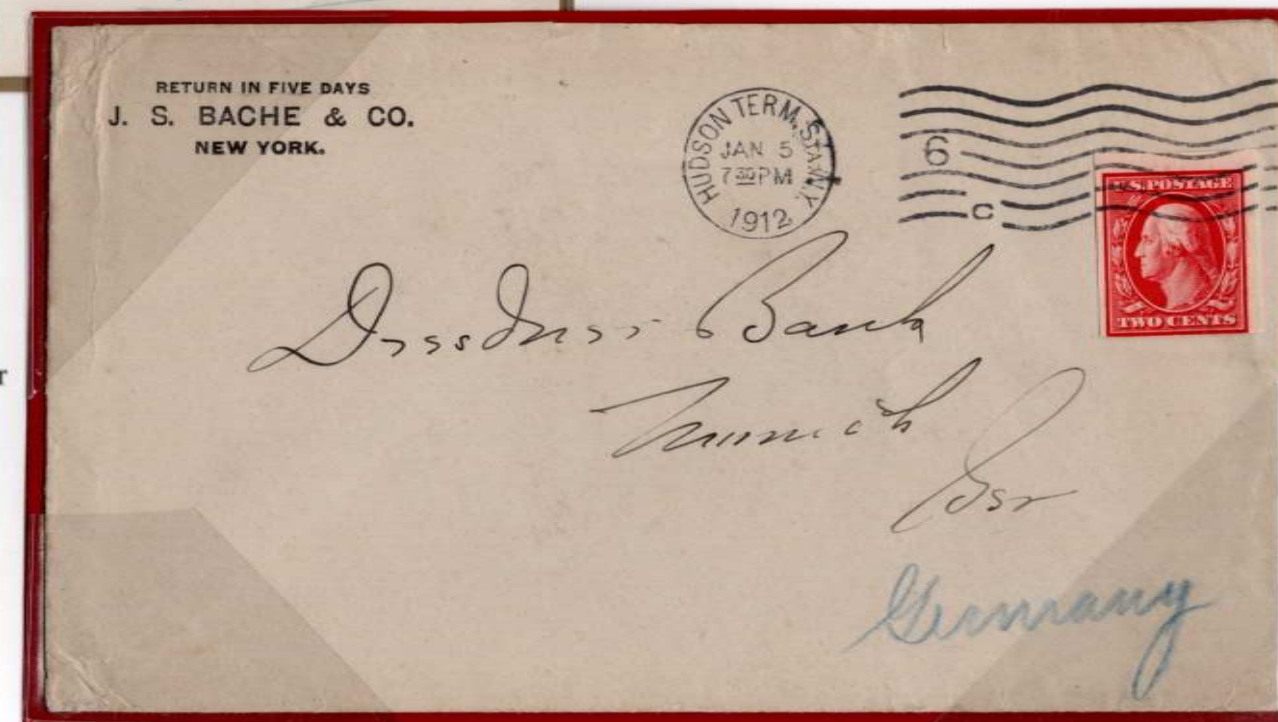


Mixed Franking 1 Cent Imperforate Sheet Stamp & Two Cent Imperforate Coil
First class, 2 cents per ounce, plus 10 cents registry fee.

First class, Treaty rate,
2 cents per ounce



First class, UPU rate, 2 cents per piece.

**German Treaty Rate**

First class, German treaty rate, 2 cents per ounce if carried on a German Steamship.

1910: 1c Perforated Issue

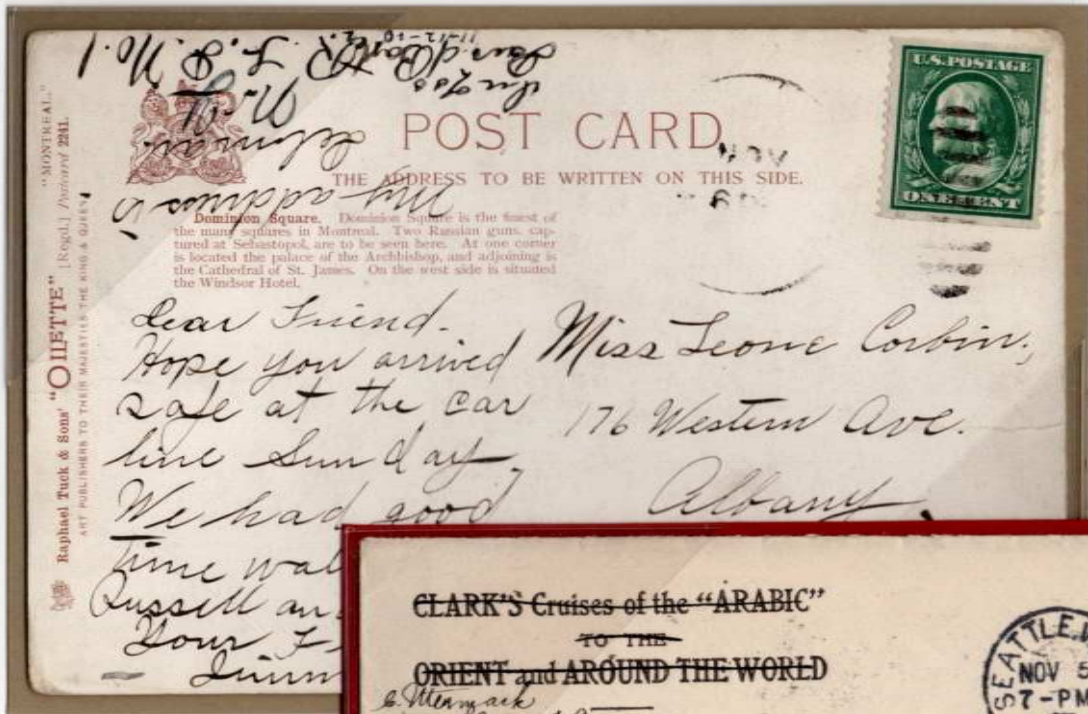
Horizontal Format

Domestic

1910: 1c Imperforate Issue

UPU

Horizontal Format



First class, 1 cent per piece.

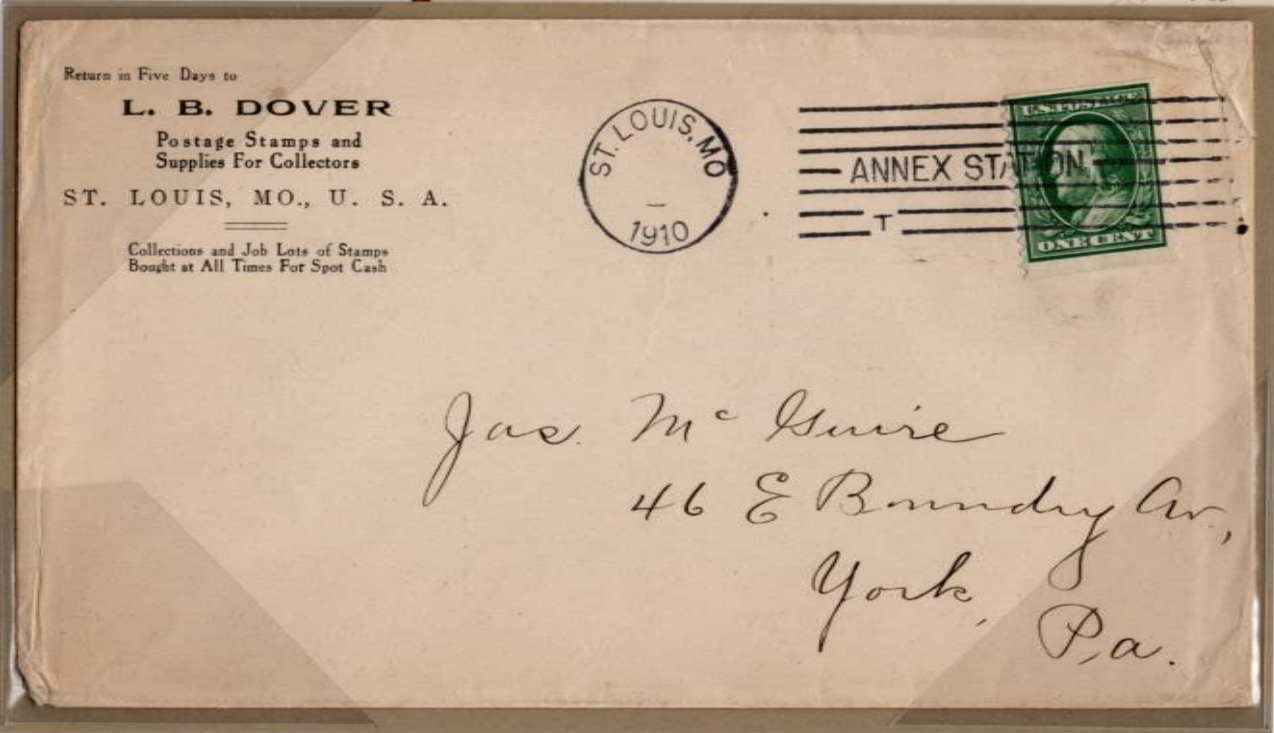
Earliest Documented Use

First class, 2 cents per ounce.

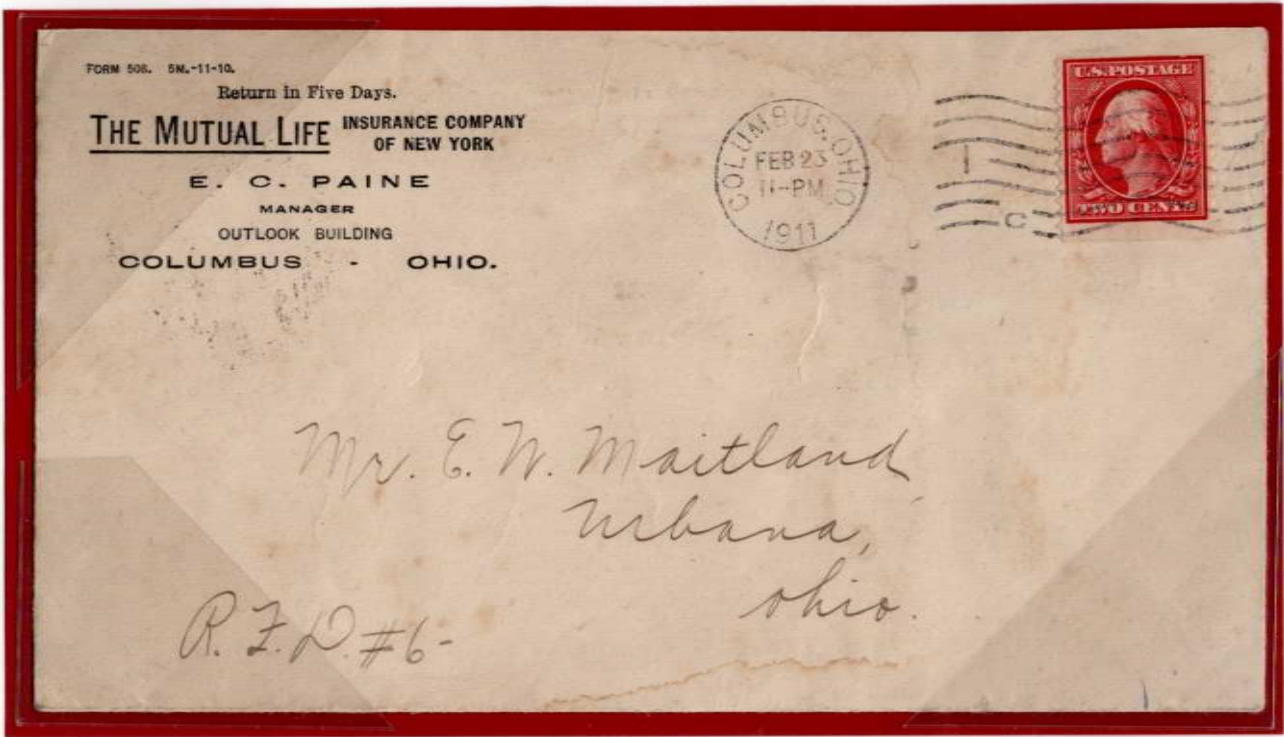
PF 167963



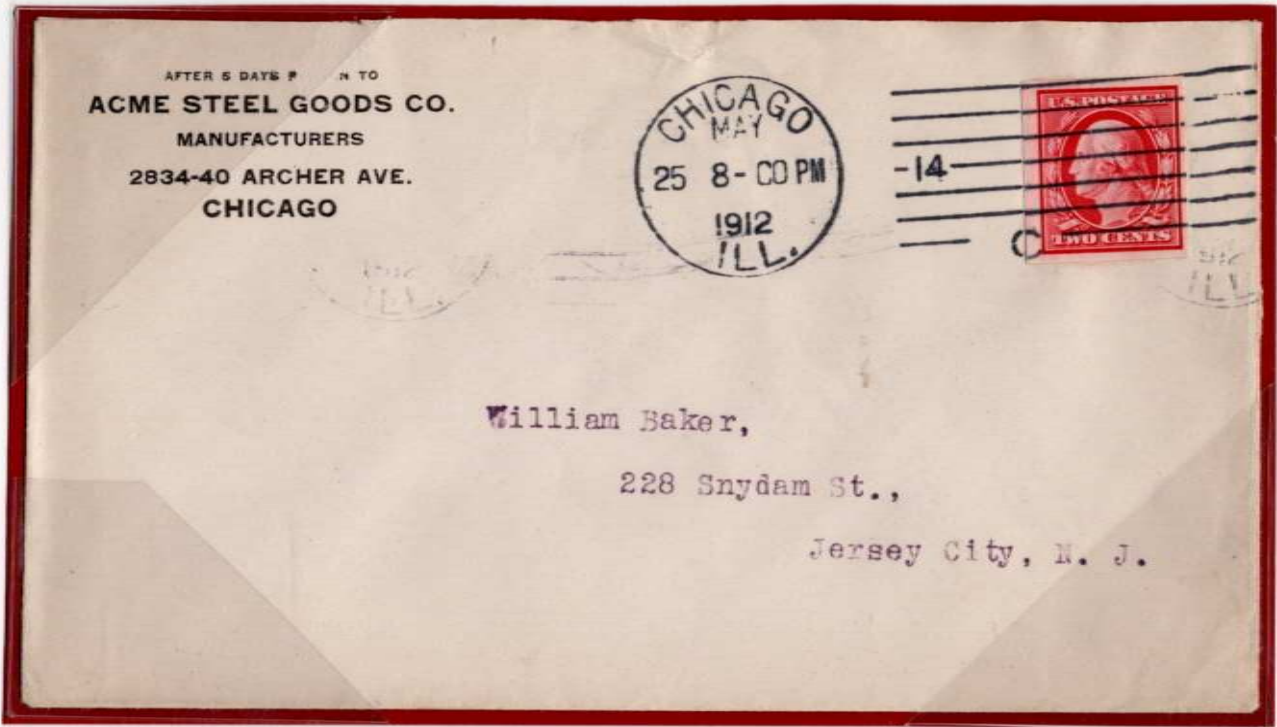
Third class, printed matter,
1 cent per 2 ounces.



One of Two Documented Uses
Third class, 1 cent per piece, International Printed Matter.



One of 6 Documented Uses
First class, 2 cents per ounce. PF 112562



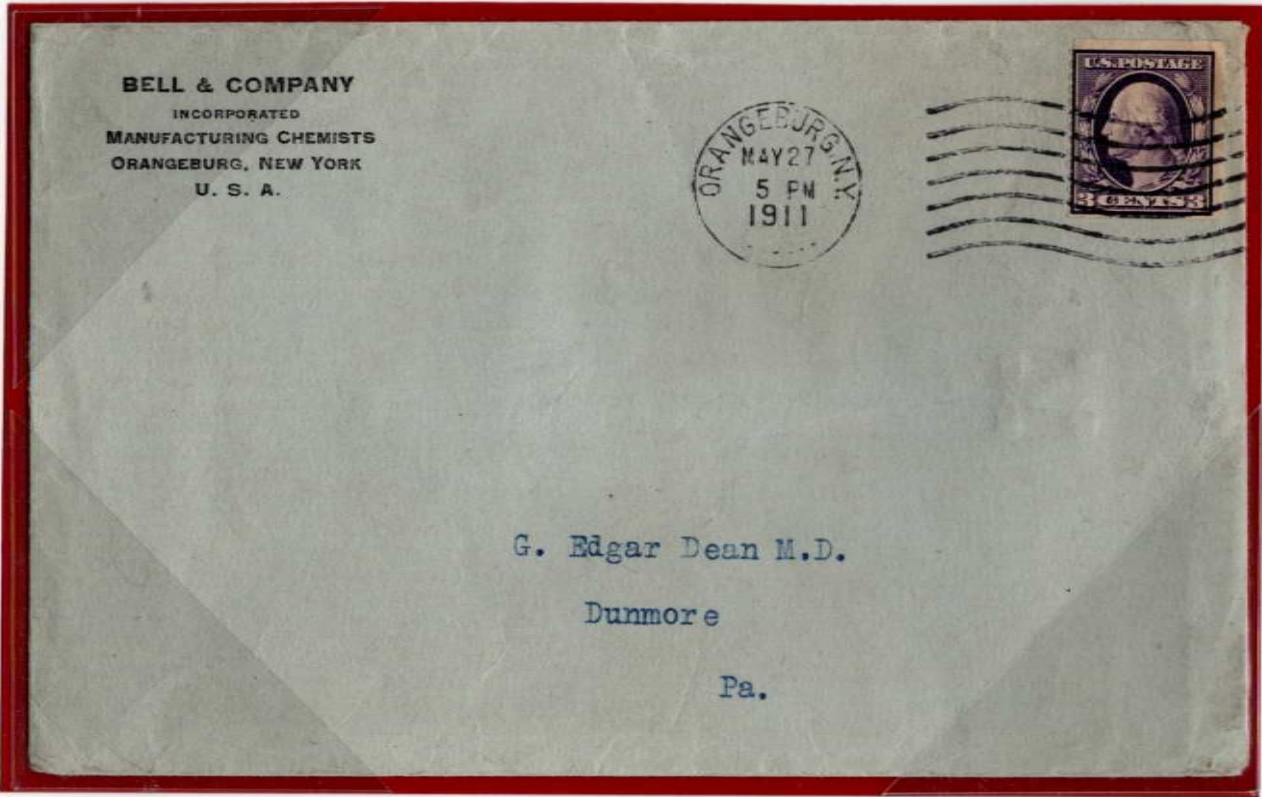
One of 4 Documented Uses
First class, 2 cents per ounce. APEX 155160

The population of the 2 cent single line perforated 12 horizontal coil is small due to the very short time span it was available for use. There were only six weeks between the issue dates of the 2 cent perforated 12 coil and the new 2 cent perforated 8.5 coil of 1910. Another factor is the early coils from the first three issues were sold primarily to businesses who ordered them from the Bureau. These factors contributed to the small number of this particular coil being used on mailings.

Dates Issued by the Bureau	
• 1910 perforated 12 coil	11/1/1910
• 1910 perforated 8.5 coil	12/16/1910
Earliest Documented Use	
• 1910 perforated 12 coil	1/4/1911
• 1910 perforated 8.5 coil	12/27/1910

1910 Flat Plate Coil Waste

The “Orangeburg Coil”



Fourth Class Samples
Fourth class, 1 cent per ounce, independent of distance equal to or less than 4 ounces.
PF 253984

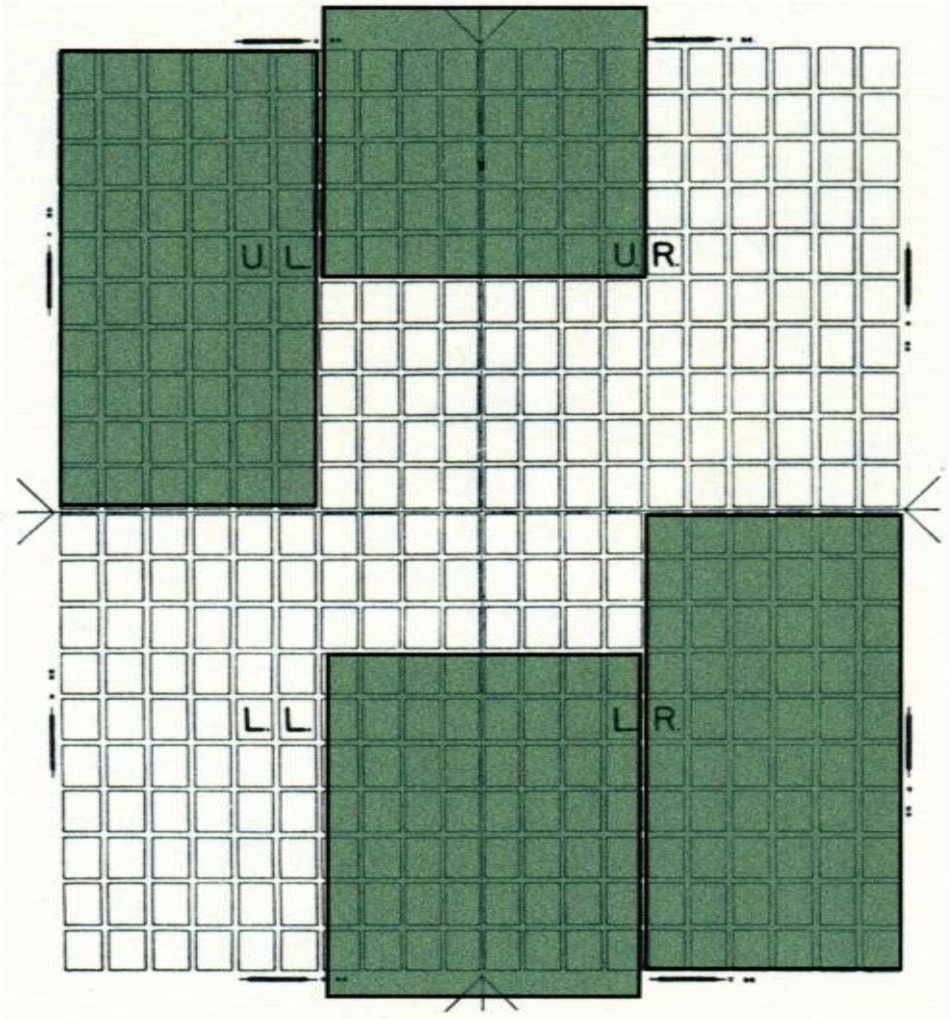
One of 16 Documented Uses

The Bell Pharmaceutical Company ordered the 3 cent single line horizontal coil to use on their mailings of samples, or antacid pills, to doctors and pharmacists. Companies had the option to special order stamps from the Bureau in the format they desired.

The 3 cent coil from 1910 and the 10 cent coil from the previous issue only exist due to this company ordering these stamps in coil format to use on their mailings of samples.



The metal tin above is what they sent the antacid pills in through the mail. Over 90% of the stamps are damaged due to being put through the machine to cancel the stamp. The label is from one of their bottles of pills.



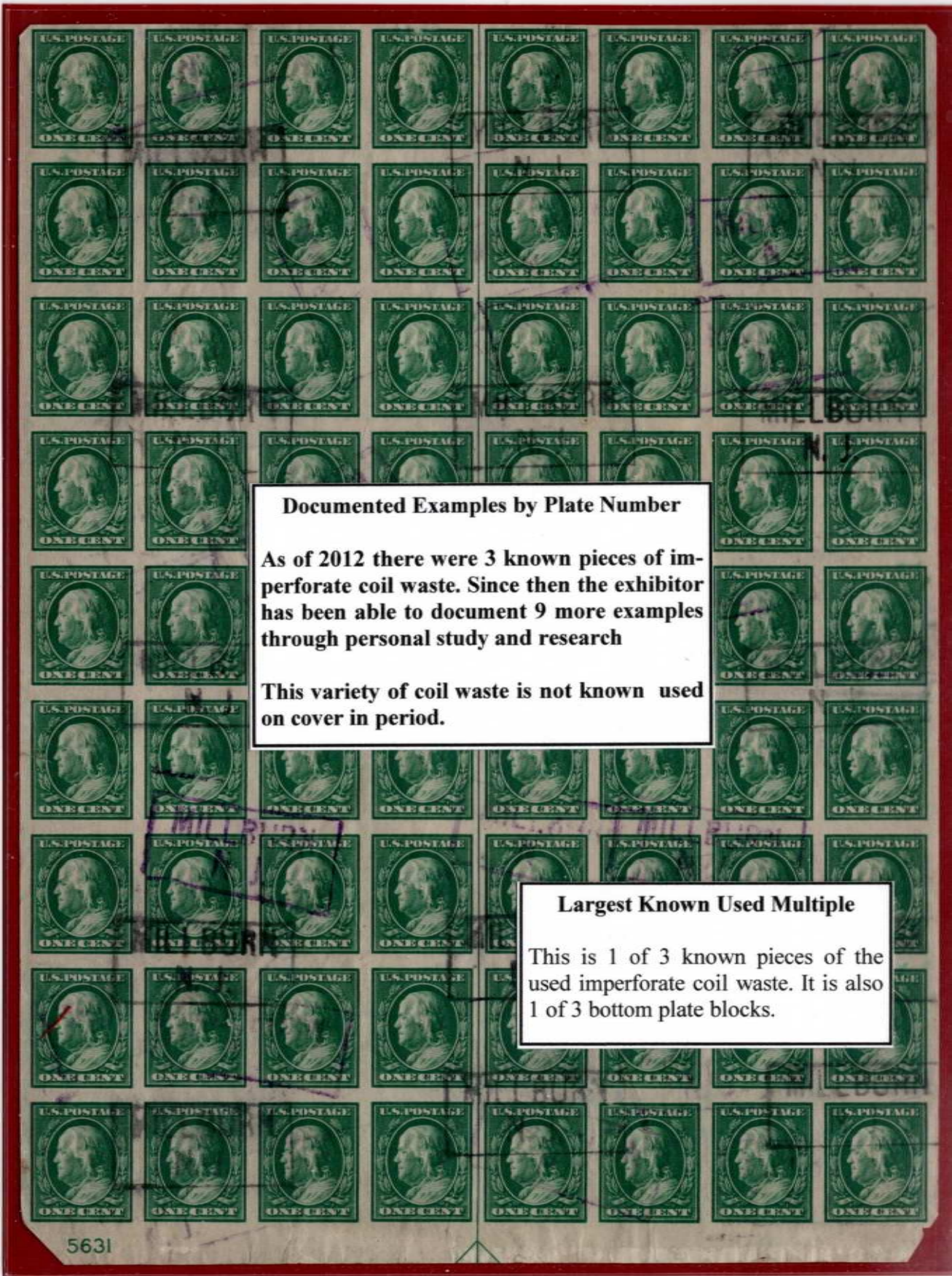
- Flat Plate Coil Waste
- Coil Waste is defined as excess stamp material intended for coil production that ends up being produced into sheet stamps.
 - The highlighted areas of the Star plate show the locations of the next 4 pieces of coil waste.
 - The Star plates were designed with varied spacing.
 - The inner 8 rows had 2mm horizontal spacing between stamp designs.
 - The outer 6 rows on each side had 3mm spacing between stamp designs.
 - The private vending machine companies had trouble with the varied spacing.
 - The Star plate was used to produce the 1910 perforated gauge 12 coils.

Imperforate Coil Waste

- The private vending machine companies had a problem with the varied spacing of the Star Plates.
- The Bureau made an attempt to accommodate the United States Automatic Vending machine company by cutting out the center 8 rows of the pane of 400.
- The center 8 rows had 2mm horizontal spacing between designs.
- The USAV machine company made their private vending coils from the center 8 rows.
- Soon after these were produced the Bureau changed the plate layout to a uniform design spacing of 2.75mm.
- These new “A” plates took the place of the Star Plates
- This solved the problem for the private vending machine companies.
- The left over imperforate pieces were sold at the Washington D.C. post office as sheet stamps.



Reported Numbers, Positions, and Condition			
Number	Top	Bottom	Total
5620	1-M	1-M	2
5631		1-U	1
5639	1-M		1
5644	1-M		1
5647	4-M	1-U	5
5651		1-U	1
5673	1-M		1
M=Mint U=Used			12



1910 Flat Plate Coil Waste-Perforated Panes of 60



Upper Left/Lower Right Corners

The private vending machine companies had a problem with the varied spacing on the Star Plates. The Bureau cut out the center 8 rows and took the left over corners and perforated them into panes of 60. These panes were then sold at the Washington D.C. post office in 1912. The general public was unaware of this coil waste variety until years later.

This variety of coil waste is not known used on cover.

Existing Plate Numbers

The following plate numbers have been reported for the perforated panes of 60 and imperforate pieces from the center of the full pane of 400.

5603 5604 5605 5607 5620 5622 5631 5632

5639 5640 5643 5644 5647 5651 5672 5673





The 1910 issue consisted of 5 values. The 1 and 2 cent denominations were issued in vertical and horizontal format. The 3, 4, and 5 cent denominations were only issued in horizontal format.

Major production changes for 1910 perf-8.5 series.

- 1) Perforation gauge changed from 12 to 8.5
- 2) The new "A" plates had a 2.75 mm horizontal spacing between all designs.
- 3) The 400 subject panes were now cut into two 200 subject panes, then pasted together until there were 500 or 1,000 subjects in a row.
- 4) The roll was then slit and wound into coils of 500 or 1,000.
- 5) Entire process now took just 2 workers.



Gauge 12 Perforations



Gauge 8.5 Perforations *

First Major Production Change

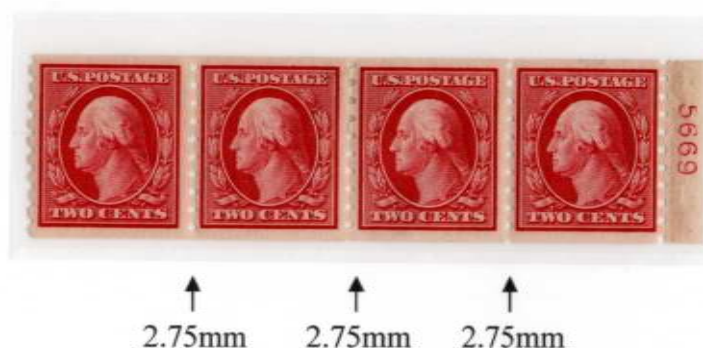
The Bureau realized the gauge 12 perforations were too brittle for the auto-wound process because they broke frequently in production. By changing the gauge to 8.5 it solved the problem.

The 8.5 gauge perforations also convinced collectors that coils were indeed a different variety to collect because they were only offered in this format.

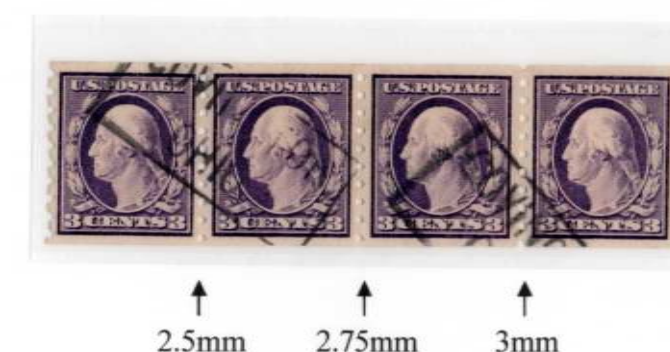
1910: Production

Plates & Plate Markings

"A" Plate



Star Plate



Second Major Production Change: Plate Design

The Bureau used 3 plates to produce the 1910 coil issue.

- Star Plate: It has a varied spacing between designs of 2-3mm
- "A" Plate: It has a consistent spacing of 2.75mm between designs.
- Provisional Plate: It also has the same spacing of 2.75mm between designs.

This change was to correct the spacing problem so vending machines could dispense coils without cutting off any of the stamp design.

Plate Markings

There are 3 types of key plate markings found on this issue.

- Guideline & Arrow, Guideline
- The Bureau Imprint
- Plate Number

Plate Finisher's Initials

The plate finisher was responsible for removing imperfections from the plate. The initials occur once in the bottom right corner of a 400 subject pane.



The purpose of the guide line & arrow was to show the Bureau worker where the 400 subject pane was to be separated.

Guide line pairs from the Star Plates and the two new plates, "A", and Provisional, will have a distinct difference in horizontal spacing between stamp designs.



The Bureau Imprints

The 1, 2, and 5 cent values were printed on the new "A" plates. The 3 and 4 cent values were printed on the old Star plates and the new provisional plates. Examples of the 3 and 4 cent values on provisional plates are quite scarce.



The reconstructed 1 cent strip shows the complete Bureau imprint for the 1 and 2 cent values of the "A" plates.



The reconstructed 4 cent strip shows the complete Bureau imprint for the old Star plates.

The imprint for the 5 cent value was abbreviated. It only had the prefix, "A" and a number.



Red Violet Shade
PSAG 563953



Plate Numbers

"A" Plate



Star Plate



Provisional Plate



Plate numbers identify which issue the coil was printed from in production.

- Star plates and "A" plates: 5000 series plate numbers
- Provisional plates: 6000 series plate numbers, 3 and 4 cent values only.

The 6000 series plate numbers are quite scarce. There are 3 documented examples of the 4 cent provisional plate number. One 6002 and two 6004 plate numbers.

Hand Assembled
Uneven edges



"New Process"
Even edges



Step



Third Major Production Change: Paste-Up Construction

- The previous two issues were "hand assembled" as discussed before.
- The new process started as an experiment with the 1910 perf-12 issue.
- It continued with the new perf-8.5 issue of 1910.
- The 400 subject panes were slit in half and then pasted together.
- The roll was then slit into 10 coils by the "Auto Wound" process.
- In some cases the two half sheets didn't line up and a "Step", or uneven edge occurred.
- These edges were still parallel with each other.

1910: Production

Coil Construction

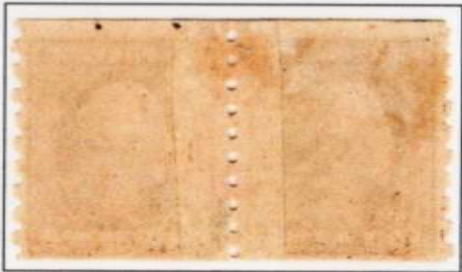


Photo copy of splice repair



Bureau paste-up for comparison

Splice Repair: The coil broke during production and a perforated strip of paper was used to repair the break. **This is a very uncommon occurrence with 8.5 gauge perforations**



Color photo copy of a complete coil.



500
1c. STAMPS
ROLLED SIDEWISE
PERFORATED
AUTO-WOUND



Leader and trailer strips were the last stage in production. Trailer strips were attached at the beginning of the roll to form the center, or core of the roll. Leaders were attached at the end of the roll and were wound around the roll to keep it intact until it was used.



500
5c. STAMPS
ROLLED SIDEWISE
PERFORATED
AUTO-WOUND

1910: 1c Issue

Domestic

Vertical Format

First class, 1 cent per piece.

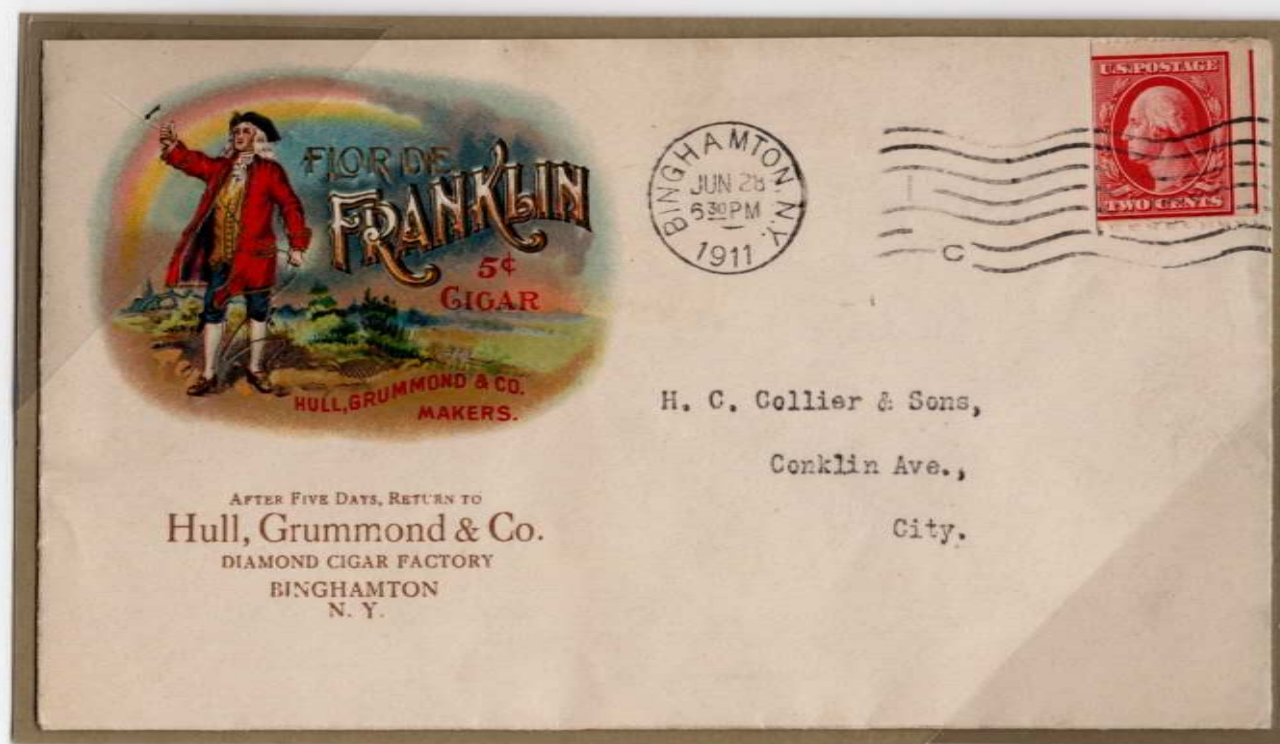


Third class, printed matter, 1 cent per 2 ounces.

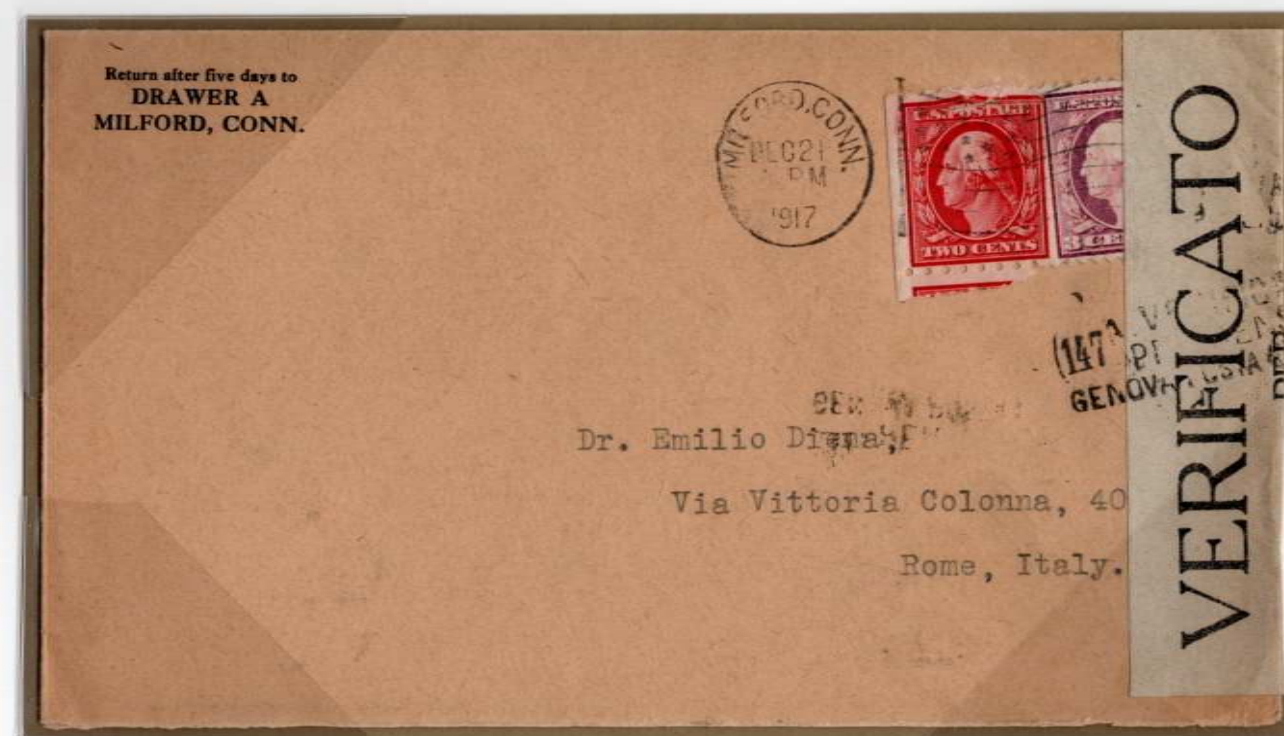


Largest Known Franking on Cover
First class, 2 cents per ounce plus 10 cents registry fee. Registry date stamp Nov. 4, 1912, New York, N.Y.

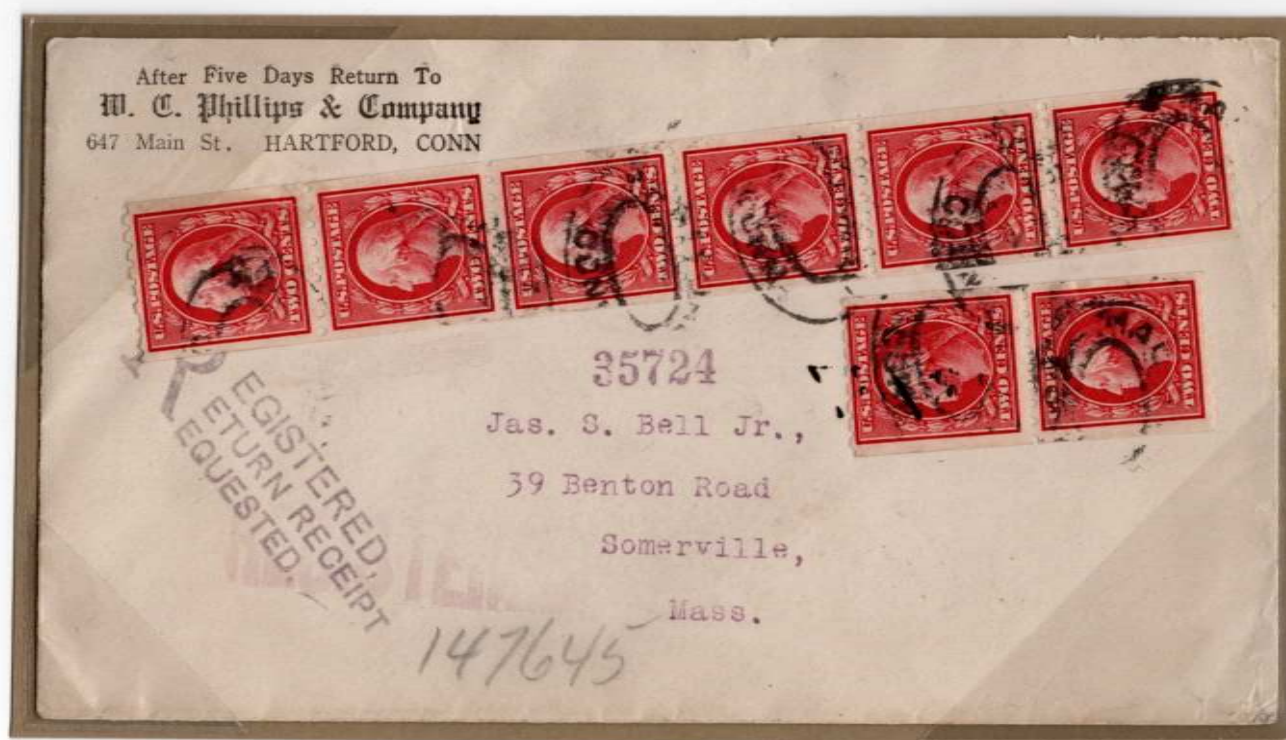
Vertical Format



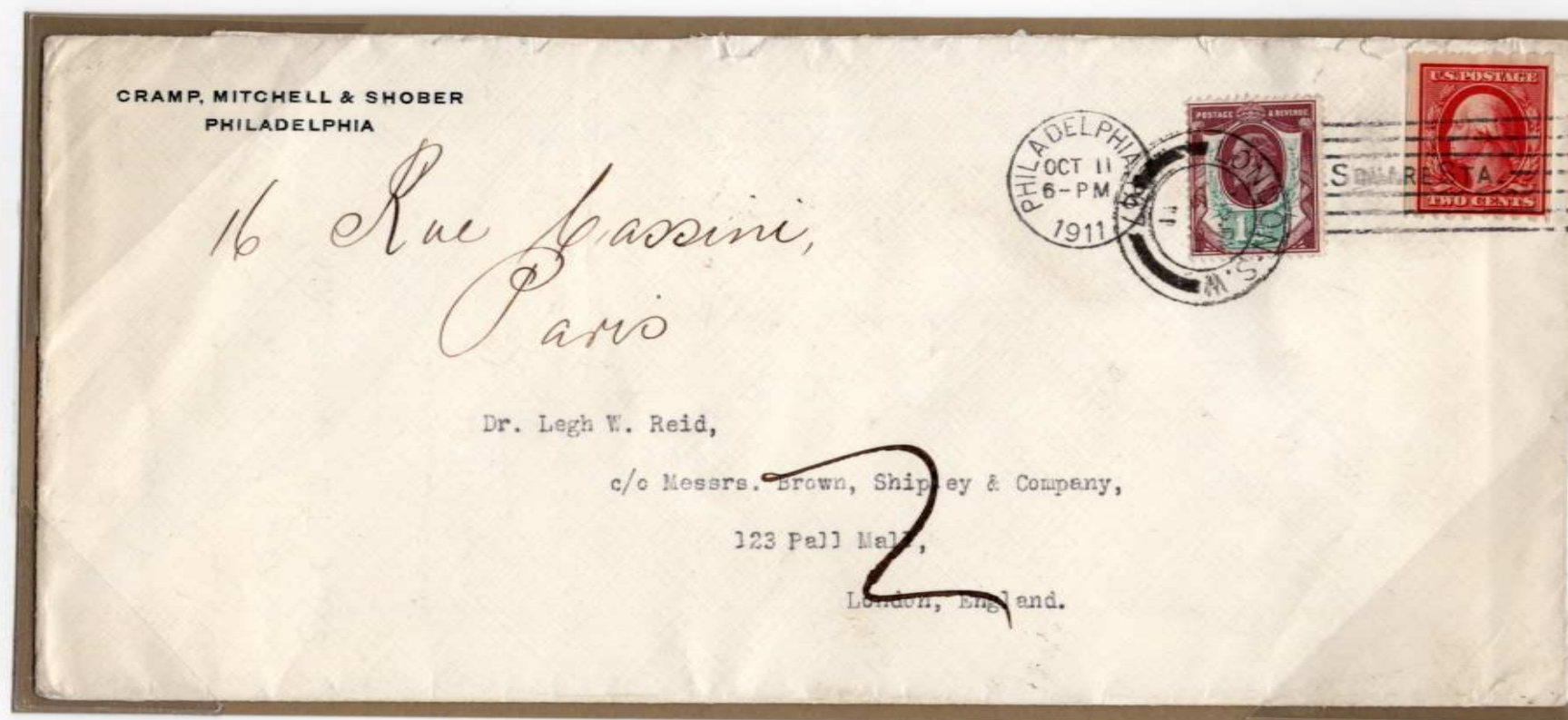
First class, 2 cents per ounce.



First class, UPU rate, 5 cents per first ounce.

**Largest Known Multiple on Cover**

First class, double war rate, 3 cents per ounce, plus 10 cents registry fee.
Registry back stamp, Hartford, Conn., Jan. 26, 1918

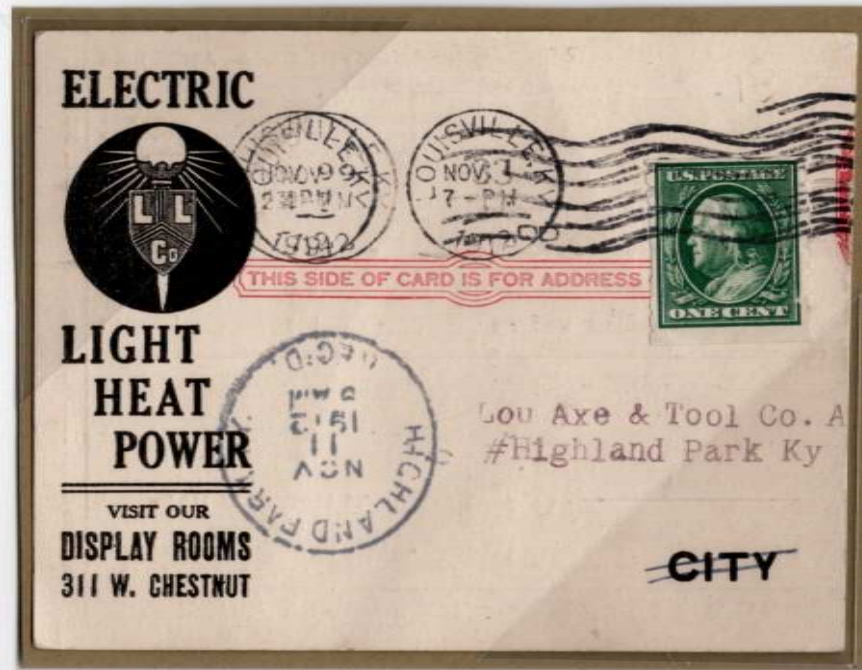
**Treaty Rate Forwarded at UPU Rate**

First class, treaty rate, 2 cents per ounce. The 1.5 pence stamp added to make up the 3 cents needed to forward the letter at the UPU rate of 5 cents per ounce.

Remailed Receipt

First class, 1 cent per piece.

- Electric bill notification
- Received 11-1-1912
- Presented and paid 11-5-1912
- Remailed receipt 11-9-1912
- Received by customer 11-11-1912



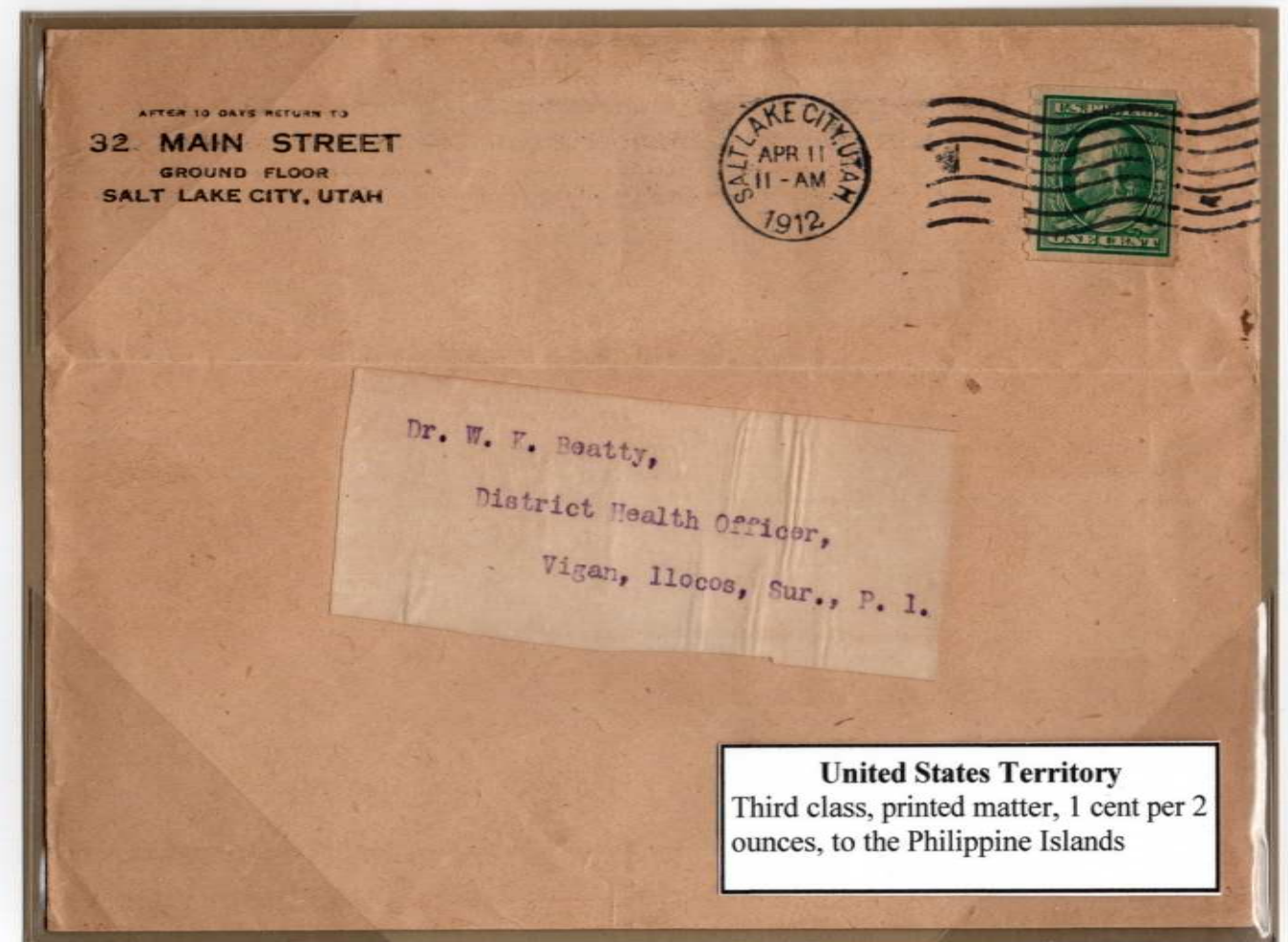
Largest Known Multiple

First class double weight, 2 cents per ounce.



First class, 2 cents per piece. Oversize cards were charged the 2 cent letter rate.

The reduced image shows the front and back of the card in expanded format.



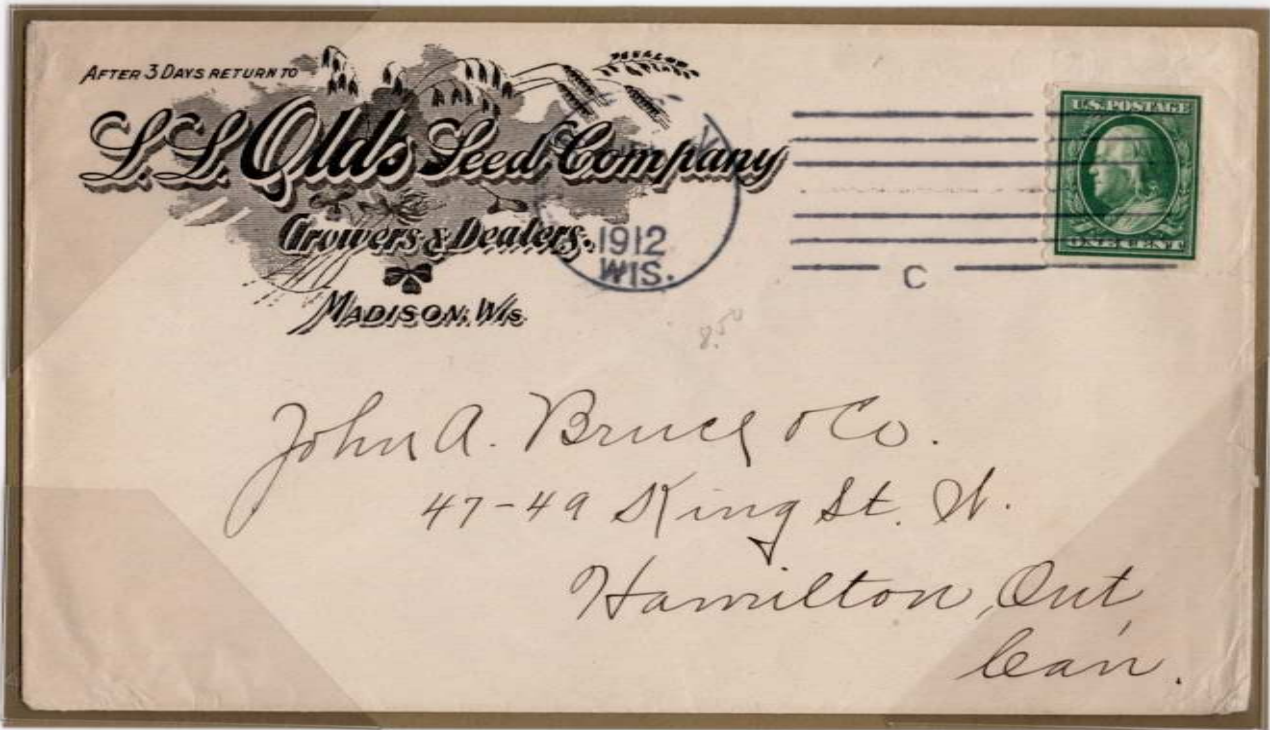
United States Territory

Third class, printed matter, 1 cent per 2 ounces, to the Philippine Islands

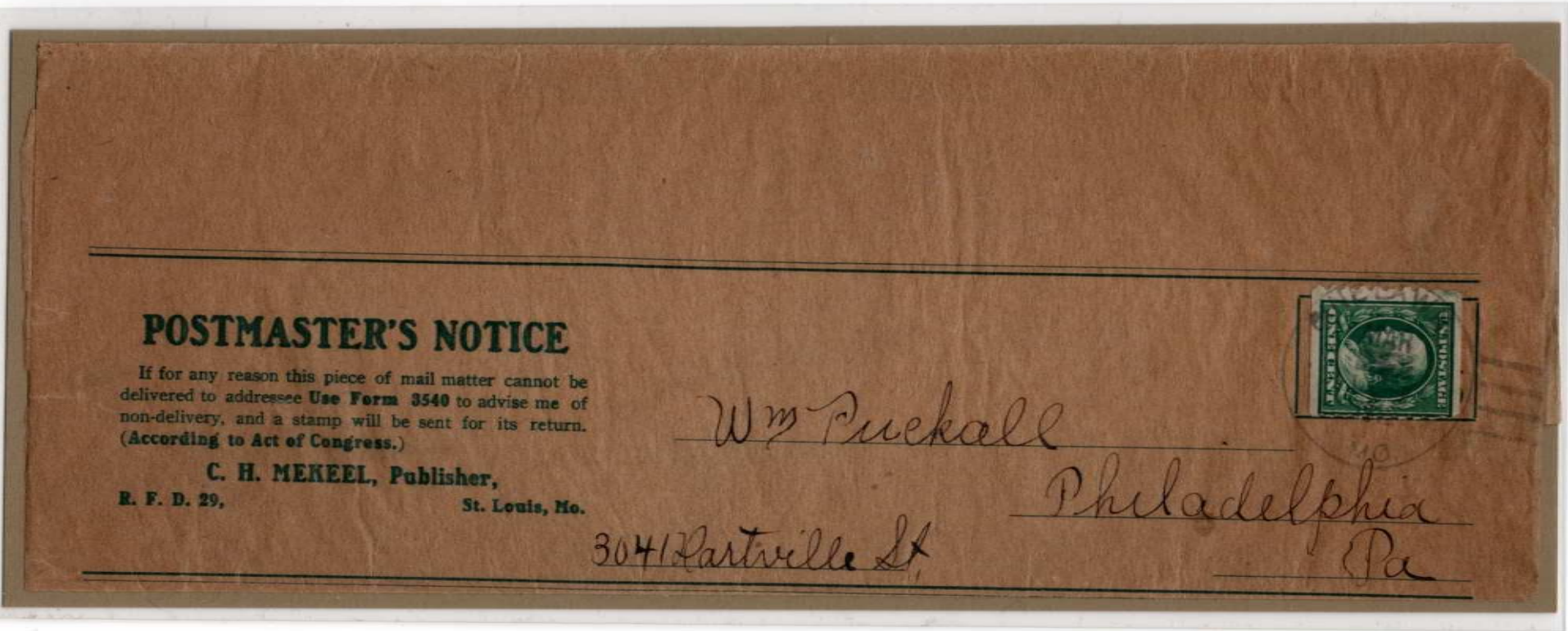
Horizontal Format



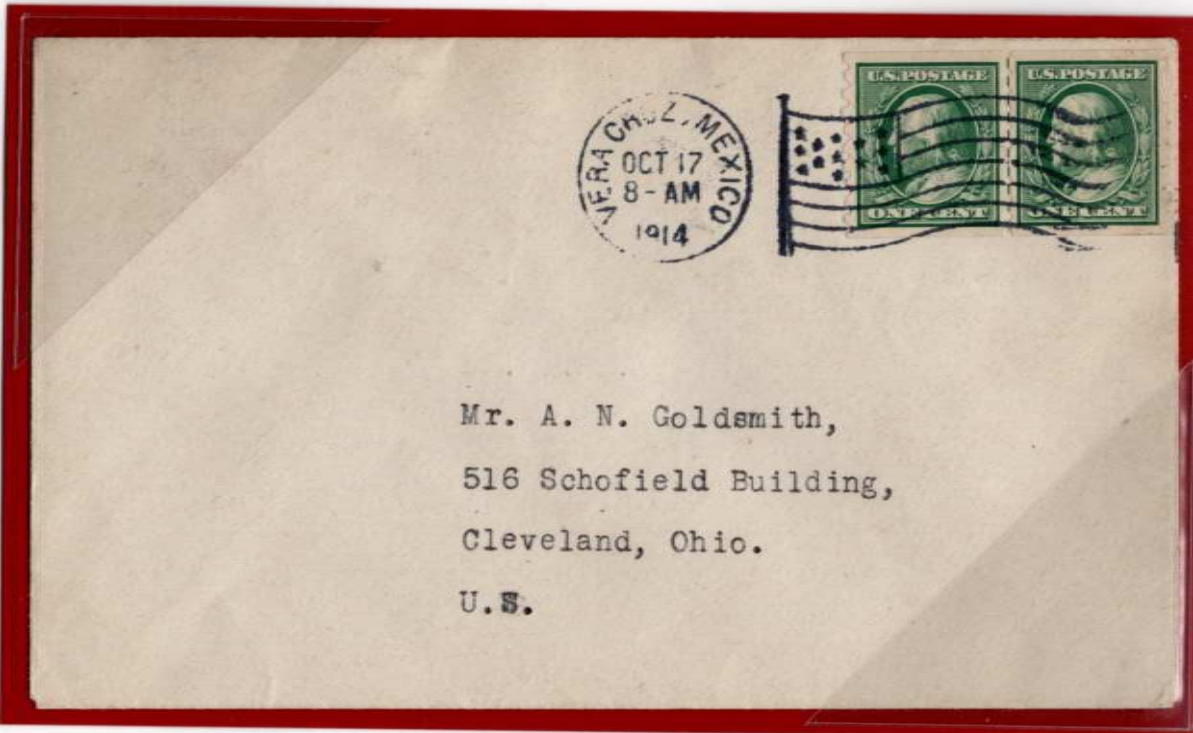
Line Strip of 3
First class, UPU, 5 cents per ounce.



Third class, treaty rate, 1 cent per 2 ounces.



Third class, printed matter, 1 cent per 2 ounces.



United States Mail Agency
First class, 2 cents per ounce. The United States ran a full service post office during the occupation of Vera Cruz from April 21, 1914 until November 22, 1914.
APEX 198326

Horizontal Format



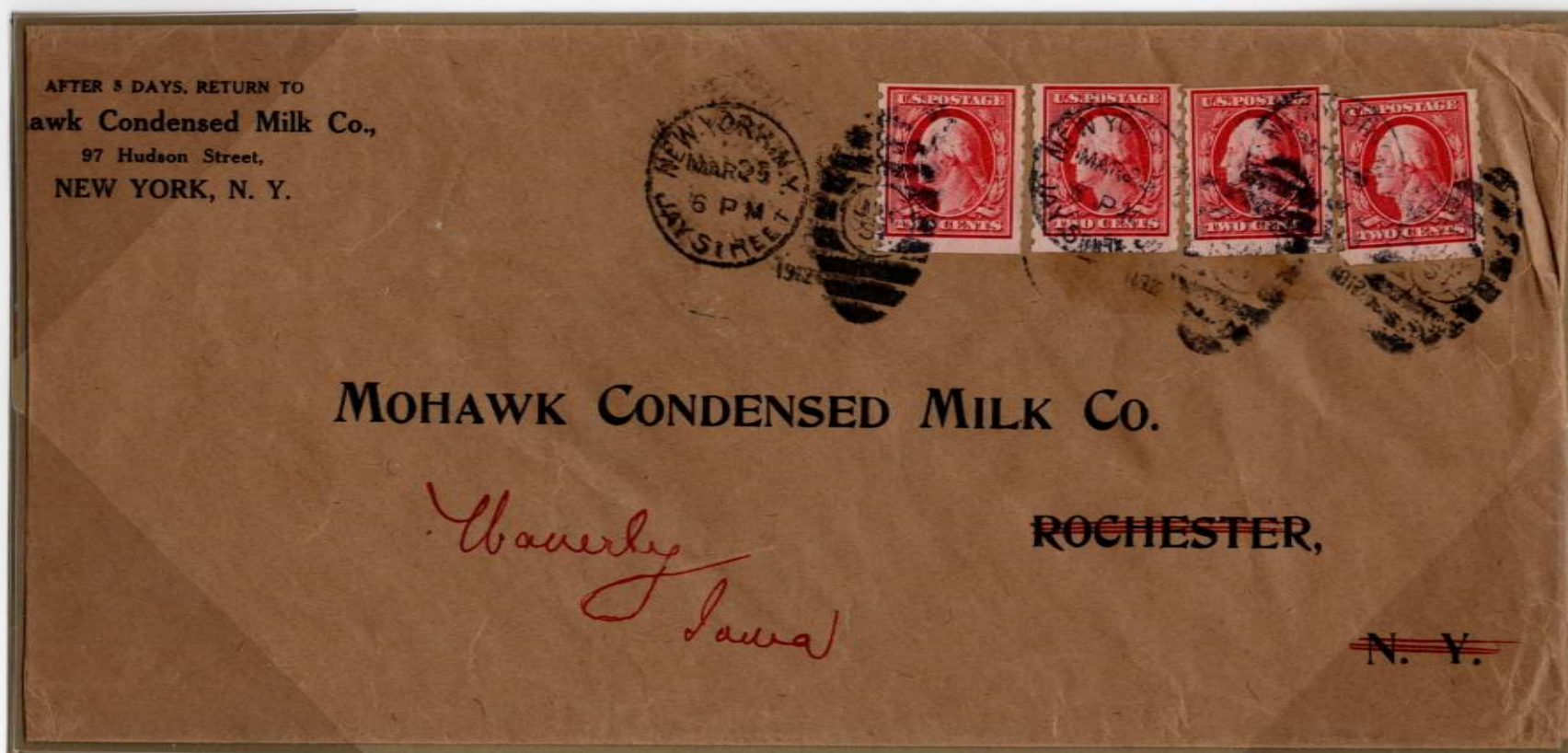
First class, double weight, 2 cents per ounce.



Largest Known Multiple on Cover

First class, 2 cents per ounce plus 10 cents registry fee. Registry back stamp, Manchester, Michigan, April 25, 1911

Horizontal Format



First class, quadruple weight, 2 cents per ounce.



Largest Known Franking on Cover

The ten 2 cent coils pay the early fourth class rate of 1 cent per ounce. Early fourth class material could weigh up to a maximum of 4 pounds and was charged at the rate of 1 cent per ounce. As of January 1, 1913, the new Parcel Post category went into effect with rates based on 8 different zones according to the distance the item would travel.



First class, UPU rate, 5 cents per ounce. Short paid, postage due 3 plus 3 cents penalty.



Auxiliary Receiving Markings

- Received DLO Bombay 10/11/1911
- Refused: RTS
- Received DLO Washington D.C. 11/27/1911
- Refused: RTS 11/28/1911
- Received Oranburg, N.Y.



Sea Post

First class, UPU, 2 cents per piece.

- Posted on the High Seas in Jamaica, given to Purser.
- Mail posted on ship must have stamps from the country of it's origin.
- The "Almirante" was a United Fruit Company ship from the United States.
- Circular date cancel, "Transito, Colon September 29, 1911".
- "Transito" meaning "Passing Through" Colon, Panama.

Horizontal Format



First class, war rate, 2 cents per ounce plus 1 cent war tax.



Largest Known Multiple on Cover

First class, 2 cents per ounce plus 10 cents registry fee. Registry back stamp Saint Louis, MO., April, 19, 1912