

Further paper and ink experiments with existing 3 cent plates



red on horizontally  
ridged double paper  
discovery example



brown



red

horizontally laid papers tinted with sensitive ink

rose



dark red-brown on green



brown-red on salmon



green on green



green on white



brown-red on lilac



green on yellow

wove papers tinted with sensitive inks



brown on rose-lilac



dull red on faint red



dark red on thick yellow



brown-olive on off-white

straw paper varieties



dull red



dull orange-red



brown



faint red-orange



dark rose

Further paper and ink experiments with existing 3 cent plates



blue



sensitive olive ink



experimental gum



green on card stock



green



brown on  
very thin paper



albino  
impression



blued paper  
varnish circles



watercolor on  
white wove



black on  
white wove



black on laid  
chemical paper



pink tissue on  
white wove



white tissue on  
white wove



light orange  
wove paper tinted with green sensitive ink



rose pink



scarlet  
sensitive ink



scarlet  
tissue on wove tinted with green sensitive ink



red



thin wove



wove



green wove



green laid



hick yellow laid

Scarlet inks were tested in late 1867 and early 1868 as demonstrated in Frame II Page 15, refuting Wagshal's article.

## Essays to Prevent Reuse

## Later Typographed Essays to Reduce Cost Circa 1867-68 by National Bank Note Company



ferrotypes of head  
thick card



progressive die  
stiff paper



completed die  
thin paper



completed die  
stamp paper

### Two colors shading into each other to produce rainbow colors - **only recorded sheet**



black over scarlet



### Underprinted with designs in another color on safety paper - **less than 6 of each recorded**



essays using the Liberty head with perforations around the vignette are from the 1870's:

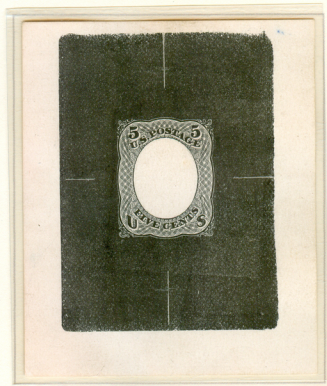
the underprint 2 in circle is listed but has not been pictured



vignette from 12 cent first design  
crosses for printing registration



lithographed frame  
positive image  
large, left facing  
Washington vignette  
pasted on



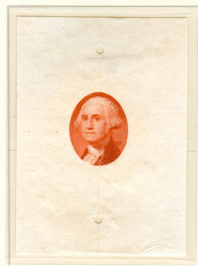
lithographed frame – negative image  
lines for printing registration



vignette from 12 cent first design  
punch hole through registration



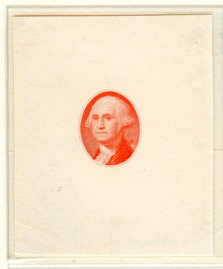
completed essay – negative image  
vignette printed  
only recorded 1 cent example



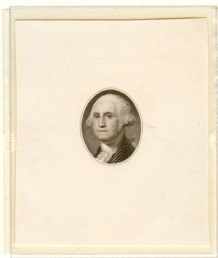
vignette from 12 cent first design  
punch hole through registration



completed essay—negative image  
vignette printed



colored vignettes - oval ring added - ivory paper



completed essay—negative image  
vignette printed

## Experiments in Grill Production

## Reduced Size for Faster Production

### The "E" grill - Points Down - Vertical Ridges - 14 x 15+ - 17+ Points

essayed with modified dies



1 cent frame

14 x 17 points

monogram *overprint*

**2 examples recorded**



grill approval

14 x 16 1/2 points

**only recorded example**



1 cent frame

network *underprint*

**2 examples recorded**



14 x 17 points



laid paper



wove paper



"Specimen" ty A

14 x 17 points e

manuscript check mark above "~~S~~pecimen"



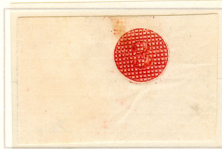
"Specimen" ty A

14 x 16 points

### additional experiments with reduced size grills and embossing



albino on tan



1/2 inch diameter grilled circle - points down  
red on white quadrille



frame pasted on



5/8 inch diameter grilled  
circle - points down



3 in 6 bar shield  
embossed



3 in 7 bar shield  
embossed



3 in 13 bar shield  
embossed

# The Issued "E" Grills

# Unused, Used and Varieties

Less Heavily Embossed than the Essays - Points Down - Vertical Ridges - 14 x 15+ - 17+ Points



e

e



presentation copy  
full gum  
e "precancellation"

triple transfer  
different shifts  
upper L & lower R

inverted grill  
discovery example e

12 cent  
continuous  
marginal grill



1 cent  
split grill

3 cent  
quadruple split grill

2 cent  
split grill

12 cent  
double grill

3 cent  
triple grill

15 cent  
double grill



variations in grill sizes by number of points

14 x 15+

14 x 15++

14 x 16

14 x 16++

14 x 17

14 x 17+

# "E" Grill Multiples

Unused and Used



ex Caspary, Ishikawa e



two recorded examples e



largest recorded used multiple



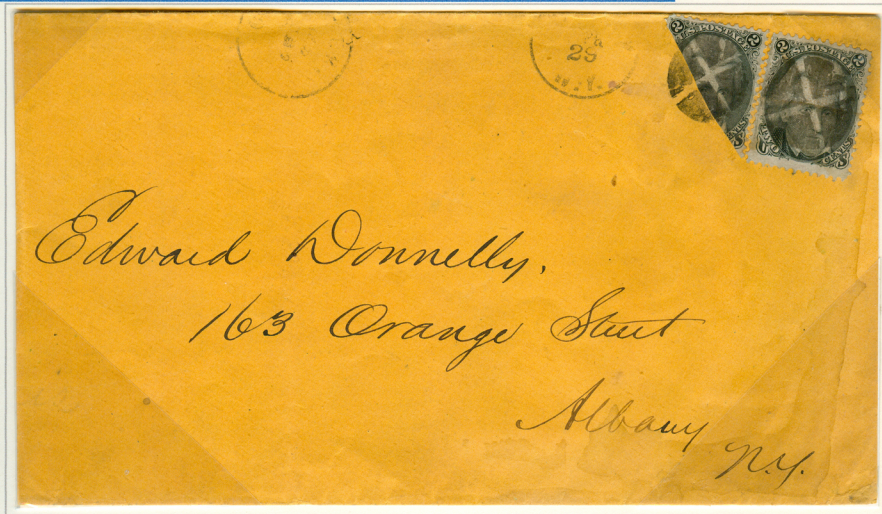
# "E" Grill Uses: 1 cent and 2 cent

# Domestic and International Destinations

domestic rate  
3 cents per 1/2 oz.



Northern German Union  
British transit  
to Germany  
15 cents per 1/2 oz. plus  
8 cents foreign registry  
1/69 - 7/70

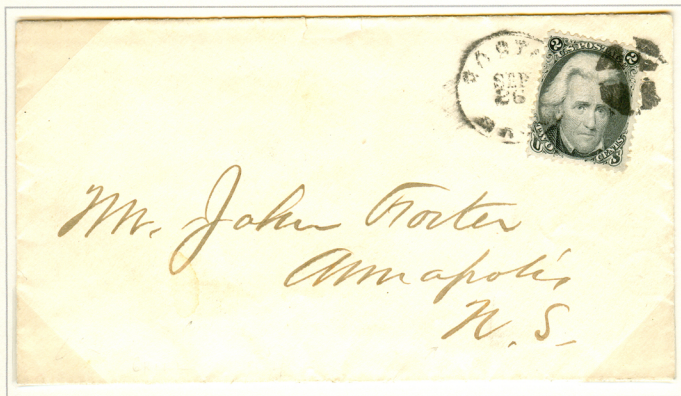
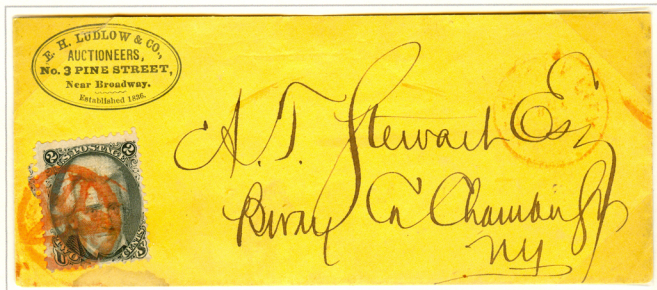


bisect use paying domestic rate - 3 cents per 1/2 oz. e

"E" Grill Uses: 2 cent and 3 cent

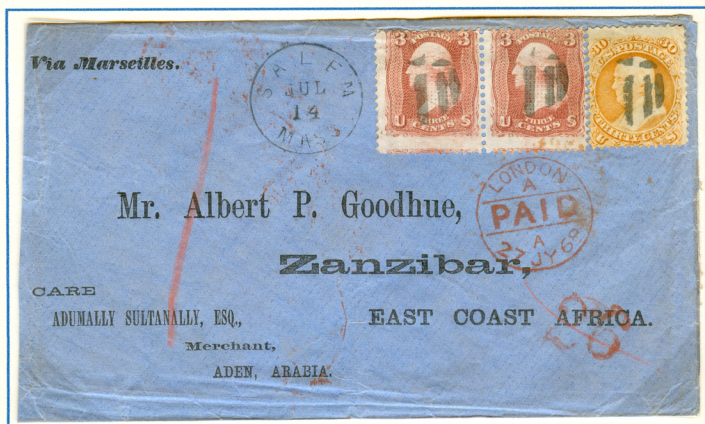
Domestic and International Destinations

2 cent drop letter rate



unsealed circular rate  
to Nova Scotia, Canada

British mail  
via Marseilles  
to Zanzibar  
via Aden, Arabia  
36 cents per 1/4 oz.  
3/68 - 1/70



"E" Grill Uses: 10 cent

International Destinations

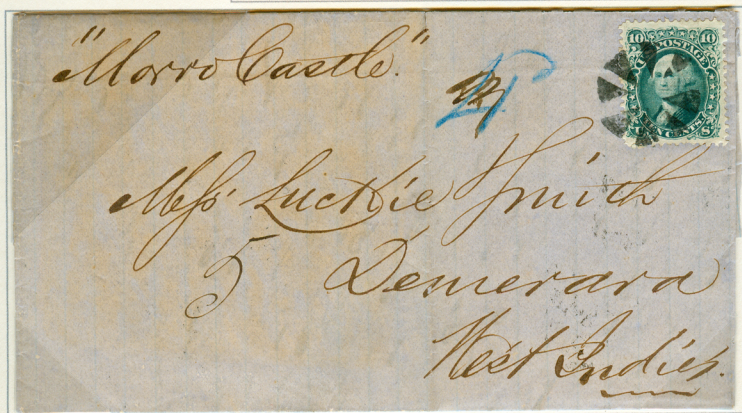
Belgian closed mail

British packet

to **Belgium**

15 cents per 1/2 oz.

1/68 - 3/70



American packet

from NY

to **St. Thomas**

then British packet

to **Demerara, BWI**

10 cents per 1/2 oz.

11/65 - 10/72

less than 5 uses known  
during the 1861-68 era

American packet

"PAID-ONLY

TO ENGLAND"

British open mail

to **Spain**

10 cents per 1/2 oz.

9/68 - 1/70



# "E" Grill Uses: 10 cent

## Northern German Union Mail

Northern German Union  
direct mail via Hamburg  
to Sweden

16 cents per 1/2 oz.

1/68 - 5/69



Northern German  
Union  
direct mail via Bremen  
to Germany  
10 cents per 1/2 oz.  
1/68 - 6/70

Northern German  
Union  
direct mail via Bremen  
to Oldenburg  
10 cents per 1/2 oz.  
1/68 - 7/70  
overpaid at old rate  
8/53 - 1/68



American packet  
 NY to Rio de Janeiro  
 French packet to Buenos  
 Ayres, **Argentina**  
 25 cents 1/4 - 1/2 oz.  
 8/67 - 1/70



American packet  
 NY to Rio de Janeiro  
 French packet to Buenos  
 Ayres, **Argentina**  
 18 cents up to 1/4 oz.  
 8/67 - 1/70  
 12 cent "E" grill  
 is double grilled

British packet  
 via Panama  
 to New South Wales  
 22 cents per 1/2 oz.  
 1/68 - 1/70

Note the "via steamer  
 per Panama R. Road"  
 instruction



# "E" Grill Uses: 15 cent

## International Destinations

Northern German  
Union

closed mail  
British packet

to Saxony

15 cents per 1/2 oz.

1/68 - 1/70



Northern German Union

closed mail

British packet

to Sicily

19 cents per 1/2 oz.

1/68 - 1/70



American packet

then British packet

via Panama to Peru

2 x 34 cents per 1/2 oz.

10/67 - 3/70



largest on cover multiple



Northern German Union

closed mail

to Bohemia, Austria e

(Czech Republic)

15 cents per 1/2 oz.

1/68 - 1/70

# "F" Grill Issues

# Unused, Specimens and Used

"F" Grill Points Down - 9 x 13 mm.: 11 - 12 x 15 - 17 Points - The Smallest and Final Production Grill



e

e



specimen presentation examples with manuscript "x" ex George Sloan



"Specimen" ty A

"Specimen" ty A

"Specimen" ty A

"SPECIMEN" ty H

e

e

manuscript "x"

e



e

e

## "F" Grill Issues

## Major Varieties



imper pair

e



vertical misperf



diagonal misperf from  
foldover during grilling



scratch under A in POSTAGE



points up grill

extra grill in selvage at left e discovery example



5 cent - grill

doubled vertically e



3 cent - grill

doubled horizontally



30 cent - grill

doubled - angled



90 cent - grill

split horizontally



10 cent - grill

doubled - 1 split vertically



triple grills on 12 cent

discovery and second example

e



e



triple grill on 30 cent

discovery example

e



triple grill on 3 cent

one split

discovery example e



"butterfly" grills on 3 cent caused by

diagonal & vertical foldovers before grilling



2 cent double grill



3 cent double grill - 1 split



3 cent horizontal



1 cent accordion grill



12 cent accordion grill

"miracle" grills - perfectly aligned extra wide or tall grills marginal grill

e

discovery example e



15 cent

quadruple split grill



2 cent

double grill

1 quadruple split



double grill - one quadruple split

only recorded example



HIOGO, JAPAN cancel



only one 90 cent cover and one wrapper

fragment are known

dates of sailing prove earliest documented use

# "F" Grill Multiples

Unused



ex Metzger



continuous marginal grill in selvage



e



e



continuous marginal grill in selvage  
ex Herzog



ex Ishikawa



split grills, pane dividing line  
ex Colonel Green



3 blocks recorded e  
ex Zoellner