

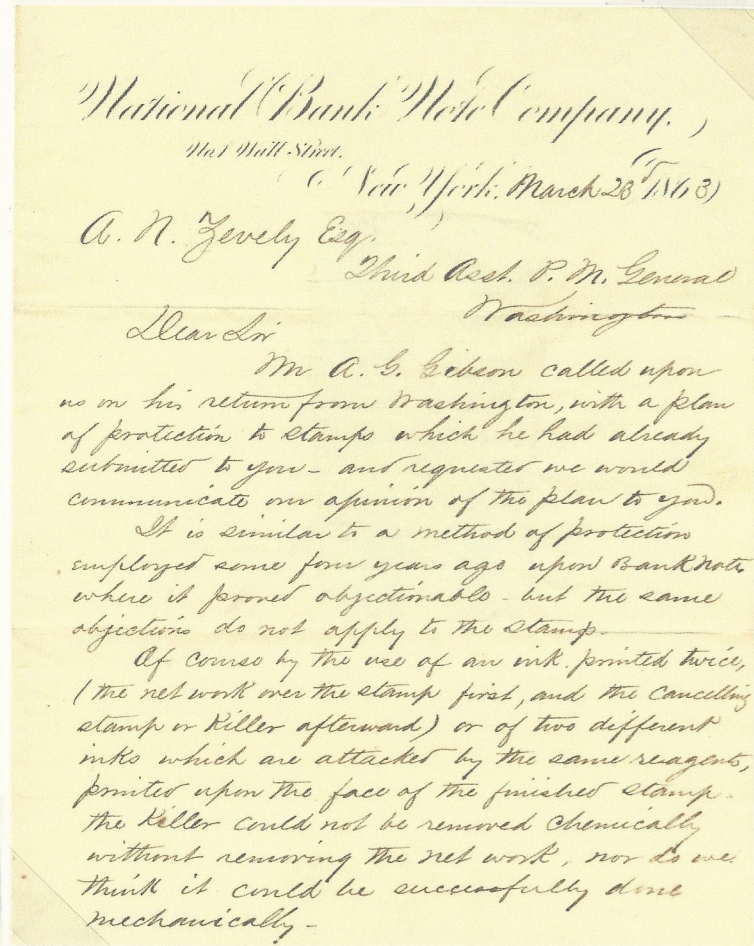
4: Patents to prevent reuse

Loewenberg patents

The prevention of reuse and surface printing to cut costs – in MacDonough's letter of 23rd March, 1863, to the 'third assistant postmaster general', Anthony Zevely.

Page two of the MacDonough-Zevely letter describes the **Loewenberg patent** and **surface printing** experiments

Scan of page one of the MacDonough-Zevely letter



The Gibson Patent (described on page one above)

'Dear Sir
Mr A.J. Gibson called upon us on his return from Washington with a plan of protection to stamps...
... by the use of an ink printed twice (**the network over the stamp first**, and the cancelling stamp...afterward)...
the killer could not be removed chemically.'

Surface printing to cut costs (P2)

'In regard to our other experiments of obtaining a **surface printing** die by a scientific process – the first attempt was a failure – the second we think promises well...'

We see but two objections to it, it injures the appearance of the engraved work, and it will cost the expense of one extra printing.

On the opposite page please find another plan we are experimenting with - it is to print the stamps on a transparent paper - chemically prepared - gum them on the printed side - and when they are fastened upon an envelope the paper may be removed but the ink leaves the ~~gum~~ paper and is held by the gum on the original envelope - we are not ready yet to report upon it, but send you the result as far as obtained.

In regard to our other experiment of obtaining a surface printing die by a scientific process - the first attempt was a failure - the second we think promises well altho there are serious difficulties to be overcome.

Mr Gibson will remain in New York during the week. Hoping to hear from your Department in regard to his plan

Very Respectfully
Your Aft Servt.

J. MacDonough
Secretary

Unique example of the Loewenberg Experiment

Stuck to the back of the first page of the letter



Loewenberg's Patent is described on page two

'On the page opposite please find another plan... to print the stamps on a transparent paper (and) gum them on the printed side... when they are fastened upon an envelope the paper may be removed but **the ink leaves the paper** and is held by the gym on the original envelope...'

1864: Loewenberg patent 42,207 – printing on starch coated paper

National Bank Note Company: recess printing on starch coated paper. Perf 12, ungummed.



Rose. Imprint block of four.

The concept: printing the stamp on a coating would prevent the design from reaching the paper. Any attempt to wipe away a cancellation would also wipe away the coating; and with it, the design.

Research: establishes that these essays are not ‘decals’.*

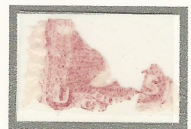
These essays have been **incorrectly** described as ‘decals’ i.e. patent 40,489 since Mason, 1911. They are not decals. They are tests of patent 42,207 (printing on starch coated paper).

Actual stamp
with flakes
removed



Scans of the stamp before and
after the hardened flakes of
starch had been removed

The actual
flakes



Magnified scans of the flakes
once they'd been removed

Procedure: The surface is severely cracked. Using tweezers it is relatively easy to lift printed flakes from the surface. Even when old gum is severely cracked, it cannot be lifted so easily.

Patent description:

Patent 42,207 involved coating the paper so as to ‘...prevent the penetration of the ink’; and then printing on the coated surface. The gum is applied to the back in the normal way.. ‘Any attempt to wash off the canceling mark would... result in the removal or defacement of the print itself.’ Loewenberg suggested a coating of starch.

From Loewenberg’s letters patent dated April 5, 1864

* Hofmeyr, Jan and Jim Lee (2016), ‘Linking Essays of the Washington 3c (1861-69) to their Patents’, *The Chronicle* 68:2, May

1866: Loewenberg's decal patents – retested for surface printing

Research: the design for these experiments was created by the Loewenberg Stamp Co. in December, 1865. The NBNC tested both patents 40,489 and 45,057. Neither Mason nor Brazer make the correct ascriptions.*

Step 1

Select two sheets of stamps for testing and **prove that both are gummed.**



Two mint stamps cut from the original sheets:
one red and one orange brown



Stamps from each sheet stuck to a piece of paper –
proving that both sheets were gummed

Step 2

To establish whether the design is printed **between** the paper and the gum (patent 40,489) or **on** the gum (patent 45,057)



Scans of the stamps before soaking



40,489: Printed *between*
paper and gum

45,057: Printed *over*
the gum

Procedure: soak each stamp for an hour in lukewarm water to soften the gum. Brush the printed, gummed side lightly with cotton wool.

Result: the gum comes away from the red stamp but leaves the design intact. This would be impossible if the design were printed on the gum. By contrast, the gum cannot be removed from the orange-brown stamp without destroying the design.

Conclusion: patent 40,489 never worked. The ink proved to be colour fast and stuck to the paper instead of coming away with the ink. Patent 45,057 works – it would have been impossible to lift the stamp from an envelope without destroying the design.

Note however, that it is impossible to tell which patent applies to each of these essays without damaging the stamps.

Patent description:

A year after registering Patent 40,489 for 'decal's, Loewenberg registered Patent 45,057 for self-canceling stamps: *'The nature of my invention consists in applying an adhesive substance to transparent paper..., and afterwards producing any... design upon the surface of the said adhesive...'*

From Loewenberg's letters patent dated November 15, 1864

Loewenberg surface printed decals: there are many shades
Printed in reverse on the gummed side

Grey brown



Orange brown



Green



Deep blue



Dull blue

Orange

Violet red



Light green



Loewenberg surface printed decals: shades

Printed in reverse on the gummed side



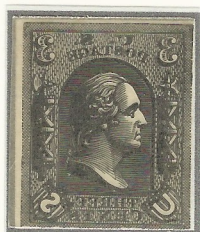
Dull pale violet



Violet



Brown



Black



Light red

The thickness of the paper varied

*Pale red
From the gummed side*



*From the front – thin
transparent*

*Red violet
From the gummed side*



From the front – more opaque

*Orange red
From the gummed side*



*From the front –
thicker transparent*

The above stamps were originally blocks of 4. I cut them into pairs so that a pair from each block could be turned over. The variations in paper thickness can readily be seen from a comparison of the resulting opacity.

Loewenberg surface printed decals: printed in sheets of 25
Printed in reverse on the gummed side



A complete sheet of the **Violet** color

Some essays were printed in reverse although they are not testing a patent

Research: the design for this essay was created by the short-lived Loewenberg Stamp Company. That explains plate proofs like this which aren't testing a patent.*



A complete sheet of **Black** on white wove

* Exhibitor's original research, due for publication in The Chronicle in 2019

Loewenberg surface printed decals: perf 12, gummed, gray violet
Printed in reverse on the gummed side

Five perforated sheets recorded



A pencil annotation is just visible (red arrow). It says 'Lowenberg patent 1867'. It spells his name incorrectly and is wrong about the patent date.

This is one of the ways in which cataloguing errors accumulated.

Loewenberg surface printed decal rarities: the rarest shade is **Gold**
Printed in reverse on the gummed side

The only known example of a complete sheet



Loewenberg surface printed decal rarities: se-tenant samples produced for potential sales in Europe

Five recorded se-tenant



e: Calvet

Se-tenant stamps of France and the United States

Prussia is the only country known to have used the patent



Sheets were produced with wide spacing for perforations, but never used

Loewenberg patent 42,207 – printing on starch-coated paper, a re-test of the 1864 patent in 1866/7

Research: proves that these essays are not ‘Gibson starch coated’ as catalogued. They combine tests of lithographic printing with Loewenberg’s patent for starch-coated paper.*

Background: Mason (1911) describes these essays as ‘ordinary white paper’. Brazer added ‘Gibson patent coated opaque white paper generally crinkled...’ (1941). The Scott catalogue (2016) copies Brazer.

But Gibson never patented a coated paper. Only Loewenberg and Wyckoff patented coated papers.

i). Essays wiped by cotton wool dipped in warm water

Note how the printed ink comes away cleanly, without smudging. This happens as the damp cotton wool dissolves the starch.



Light
grey



Light
blue

The process of starch coating causes the paper to crinkle



ii). Magnified high resolution scan of the surface



Procedure:

- i. Wipe the printed surface with damp cotton wool. Fugitive ink would smudge. This ink resists the wiping until it comes away cleanly. This is how printing on a coated surface behaves when wiped.
- ii. Examine the printed surface under strong magnification. As the high resolution scan shows, the surface is cracked. This is the defining characteristic of a starch coated paper – the starch coating cracks over time.

Conclusion: the way in which the ink comes away from the paper proves that it is not a fugitive ink. It is a normal ink printed on a coated paper. There are only two patents for printing on a coated paper: Loewenberg’s 42,207 and Wyckoff’s 53,723. Wyckoff’s method does not lead to surface cracking. The combination of surface cracking and an ink that comes away cleanly, proves that these essays should be ascribed to Loewenberg’s patent.

* Hofmeyr and Lee (2016), The Chronicle 68:2, May

Loewenberg patent 42,207 – printing on starch-coated paper, a re-test of the 1864 patent in 1866/7

Shades: lithographic printing, imperf and ungummed



Pink



Blue



Yellow orange



Light pink



Brown



Light gray



Black

1866: Loewenberg patent 53,081 – chemically treated paper

Chemically treated paper
Orange, unstained



This scan of the back shows the blue chemical flecks that stain when wet

Black on white wove
Imperf, ungummed



Prussian blue on white wove. Imperf, ungummed



Prussian blue on heavy white wove, perf 12

A scan of the back shows the staining and laid paper



Scarlet on white vertically laid paper

Imperf, ungummed

Uncatalogued on laid paper

Patent description:

In 1866, Loewenberg patented a stamp to be printed on chemically treated paper that would turn blue when wet (patent 53,081). To quote: ‘... when any chemical agents as would remove writing or printing ink from (the) paper are applied... they will discolor the paper...’. Loewenberg suggested prussiate of potash or oxalic acid.

From Loewenberg’s letters patent dated March 6, 1866

Additional experiments: Loewenberg patent 45,568 – printing on starched linen

On **February 28, 1865** Loewenberg patented an ‘... *improved fabric for hats, bonnets, etc. ...*’ (**Patent 45,568**). The big idea was that the fabric could be embossed with a design if first stiffened with starch.



*Blue on
linen*



*Pink on
linen*

Research: these essays are hard to understand unless they were tests of printing on Loewenberg’s ‘improved fabric’*

Additional experiments: Loewenberg patent 63,733 – fugitive ink made of ‘saccharine matter’

On **April 9, 1867** Loewenberg patented a fugitive ink made of ‘saccharine matter’ i.e. forms of sugar like honey or molasses. Although these essays are designated as fugitive ink, they can’t be tests of Loewenberg’s patent.



Research: fugitive ink based on forms of sugar, glistens. This essay does not glisten.

Although designated as a Loewenberg fugitive ink, it cannot be based on his patent.*

Gray on thick white wove. Perf 12, gummed.

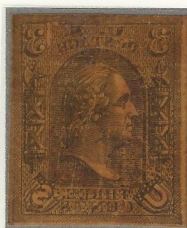
Additional experiments: various papers



*Scarlet on blue wove
Imperf, ungummed*

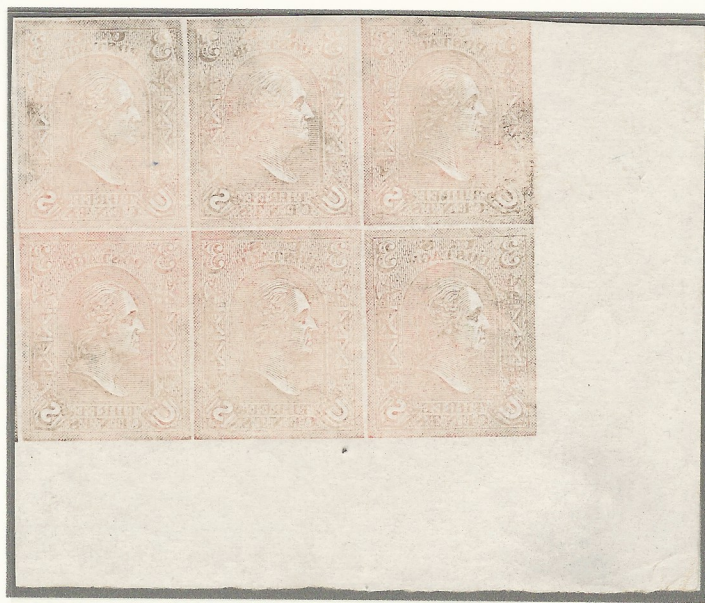


*Green on white wove
Perf 12, gummed*



*Black on orange laid
Imperf, ungummed*

*Under-inked orange, glazed
paper. Imperf, ungummed*



* Hofmeyr and Lee (2016), The Chronicle 68:2, May

Loewenberg discoveries and rarities

This **discovery copy** proves that the American Bank Note Co. also tested the decal patent 40,489

Only known example



A.B.N.C. essay on card.
Scan of the back proves
the date: **1864**

Only known example



Die on India, signed
by D.H. Craig

Only known example



Pale tan on thick
wove

Fugitive ink essay,
signed by Loewenberg