

# Determining Mesh Orientation of the Three-Cent Small Queen

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## BACKGROUND

The identification of mesh orientation has long been a key task in the determination of printing class among Canadian postage stamps, in particular 19<sup>th</sup> Century issues. In 1941, L.D. Shoemaker's definitive article *The Three-Cent Small Queen Issue of Canada (1)* published in Stamp Magazine has since helped collectors to make sense of the various printing classes during the stamps' significant reign of nearly 30 years. Shoemaker's revised Classification (2) was published in BNA Topics in 1950. Shoemaker helped collectors organize the Issue based on a variety of features such as paper type, perforation, shade, earliest reported dates of use, gum, imprints, position dots and plate varieties. These two publications have inspired many philatelists to study the Issue from many angles. Each student's approach to classifying stamps of the Issue appears to be uniquely personal; the favorite first step in the sorting process seems to be based on shade or paper type. Some collectors, including myself, will start the sorting process based on the stamp's paper characteristics from the reverse, or back-side under an ultra-violet light source. Regardless of the approach taken, determining the mesh orientation, whether horizontal or vertical, has always been a critical step in determining printing class.

Ron Ribler's book, *Canada's Three Cents Small Queen 1870-1897 Reflections of a Generation (3)*, published in 2000, re-iterates the importance of determining mesh:

"Almost all stamps of the issue were printed on wove paper having a vertical or horizontal mesh...Horizontal mesh papers predominate on most printings, while vertical mesh is the primary paper found on the Rose Carmine shade of the Second Ottawa Printing. Vertical mesh stamps generally appear taller than the horizontal mesh stamps. Actually, they are of the same height, but the vertical mesh stamps are often about one millimeter narrower, giving the appearance of being taller."

Ribler goes on to comment that "Most collectors pay little, if any, attention to the mesh. This is, in large part, because they are unaware of the fact that the differences exist and because the catalogues do not list the varieties. Estimates of vertical mesh on stamps of the First Ottawa and Montreal Printings are about 20 percent, while the Second Ottawa Printing Rose Carmine shades account for about 80 percent." Anecdotally, Ribler adds that, "If only one of five stamps has vertical mesh, perhaps the one should be catalogued at five times the value of the other. Of course, catalogue values reflect not only scarcity, but demand."

Challenges remain in determining printing class of the issue. This article aims to address one such challenge, the determination of mesh orientation.

The following questions continue to be asked:

1. Can mesh be determined from a scanned image of a solitary stamp?
2. Can mesh be determined when visual analysis fails to identify mesh, especially in papers of poorer quality?
3. Can mesh be determined on stamps found on cover or on piece?

4. Can mesh be determined with certainty by just 2 (or even 1!) linear measurements of a single stamp?

This study aims to answer one or two of these questions and serves as the beginning of a more rigorous examination of the “anatomy” and classification of this most fascinating Issue.

## **METHODS**

Two hundred off-paper Three-Cent Small Queens were chosen at random from the Marsh Collection (4), an eighteen thousand item lot, primarily of One-, Two-, and Three-Cent Small Queens, untouched for over a century.

Determination of mesh orientation was first attempted under average room lighting with minimal, if any, magnification. Any stamp’s mesh that was not easy to identify this way, would then be held to a shaded pinpoint light source (60-watt incandescent bulb in a Luxo-style lamp) that would allow for mesh alignment shadowing to be revealed at tangential viewing to the light source (and to disappear when rotated 90 degrees). Single-point LED light sources also work such as those on smart phones rigged to sit atop a shoebox, for example. I personally like the flexibility the Luxo-style lamp offers, especially when using reading glasses with added magnification.

The above technique was employed, and the stamps were sorted under one of five categories:

1. **HORIZONTAL MESH – EASY** to identify under an average light source
2. **HORIZONTAL MESH – UNDER ADDED LIGHT** and simple magnification
3. **MESH DETERMINATION UNCLEAR** – using either method
4. **VERTICAL MESH – UNDER ADDED LIGHT** and simple magnification
5. **VERTICAL MESH – EASY** to identify under an average light source

Each of the two-hundred stamps was then scanned using an Epson Perfection V600 Photo scanner at 1200 dots per inch (DPI).

The images were then viewed using Adobe Photoshop Version 24.7.2 and, using the built-in ruler tool (Figure 1), horizontal and vertical measurements (in “dots” units) of the inner oval were recorded.

Based on the assumption that horizontal mesh varieties have oval measurements that are wider than taller (the opposite being said for vertical mesh varieties), the differences between each measurement would be calculated and mesh orientation subsequently determined. Any difference of two dots or less was deemed too small for a confident digital mesh determination. The “two dots” limit was chosen subjectively.

The results of each stamp’s visual and digital mesh determinations were tabulated and analyzed.



Figure 1. Sample vertical measurement of inner oval distance of 775 dots (1200 dpi)

## RESULTS

Of the two-hundred Three-Cent Small Queens examined in this preliminary study, 169 were visually identified as having horizontal mesh, 26 as vertical, and 5 as unclear (or, indeterminate).

3 stamps were excluded from the study; the images on these stamps were significantly off-centre making digital oval measurements impossible. Two of these stamps were visually determined as having horizontal mesh, the other being vertical.

135 (81%) of the 167 stamps identified visually as horizontal mesh were confirmed digitally. 27 (16%) were not; the differences between horizontal and vertical inner oval were 2 dots or less (subjectively determined).

25 (100%) of the 25 stamps identified visually as vertical mesh were confirmed digitally. The differences between horizontal and vertical inner oval measurements (12 to 33 dots; 0.25 to 0.75 mm) for each of these stamps was on average 4 times greater than any stamp identified as having horizontal mesh.

Of note, 20 (10%) of all stamps studied had mesh markings on the front of the stamp and NOT on the back.

Raw data is available upon request.

## INTERPRETATION

Unless a Three-Cent Small Queen is off-paper and its mesh identified as horizontal with relative ease or with assistance of a lighting source and/or lens magnification, **horizontal mesh determination via digital means (scanning) is unreliable**. There are several reasons that could account for this, and theories will be explored later.

**When the mesh is identified as vertical with relative ease or with assistance of a lighting source and/or lens magnification, correlation with digital means is 100%.**

**This means that when attempting to determine the mesh orientation of a Three-Cent Small Queen using digital means alone, such as for stamps on piece, cover or only available as a scanned image, one only needs to establish if the stamp's inner-oval is significantly taller than it is wider, as is with every vertically mesh stamp examined. If this is not the case, then by default, the stamp is deemed to have horizontal mesh.**

## FOR FURTHER STUDY

As I examine larger numbers of Three-Cent Small Queens (and Small Queens of other denominations), additional conclusions will be published. Dated copies of off-paper Small Queens, in larger quantity, will also add to the breadth of mesh analysis moving forward.

## FEEDBACK

Please address your questions and comments to the author at [1870@smallqueens.ca](mailto:1870@smallqueens.ca)

## REFERENCES

1. Shoemaker, L.D., *The Three-Cent Small Queen Issue of Canada*, Stamps Magazine, March 8, 1941.
2. Shoemaker, L.D., *The Three-Cent Small Queen Issue of Canada*, BNA Topics, Vol.7, No. 5, p 96, May 1950.
3. Ribler, Ron I., *Canada's Three Cents Small Queen 1870-1897 RELECTIONS OF A GENERATION*, Philatelics Unlimited, Fort Lauderdale, 2000.

4. Eastern Auctions Ltd., *Public Auction Catalogue*, p 238, Lot 1622, June 24-25, 2022.