


Heritage Windows

Paul Denys

Denys.ca



Tony Woods

The industry loses one of its best-known and most respected building-performance experts

Tony Woods, a building science visionary who pioneered techniques and materials for improving the performance of all types of structures, died on May 8, 2009 after a battle with cancer.

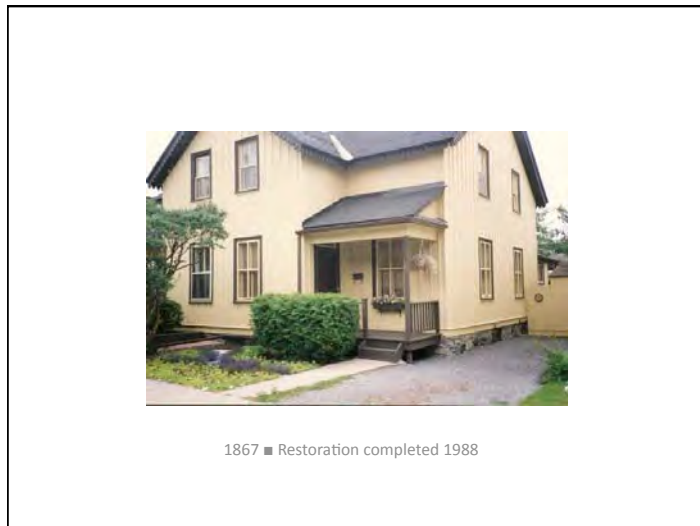
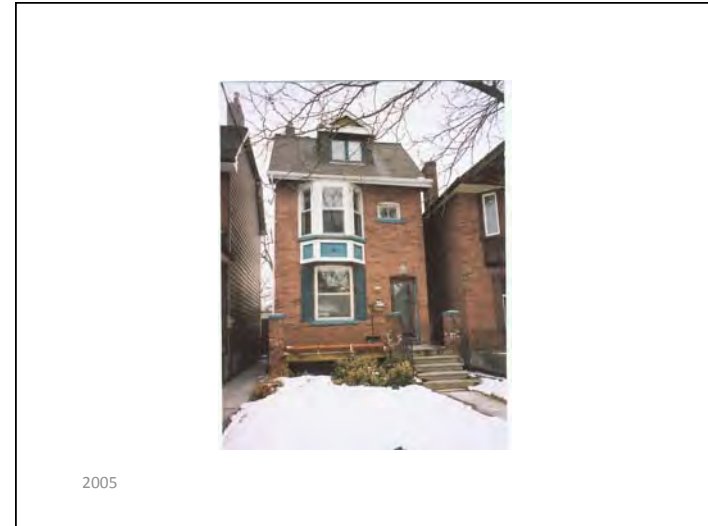
- graduate of Physics from the University of Hull (England) in 1959.
- co-founded [Canam Building Envelope Specialists Inc.](#) 1980
- division called [Zerodraft](#), based in Mississauga, Ontario, mid 1990's
- Contributed to 10 standards committees on covering air tightness testing, ventilation, combustion safety, window installation, & sealants
- Woods also participated in many federal, provincial, and utility development and demonstration programs, including several air leakage control projects, national moisture studies, and the Ontario Hydro 1000-House Audit Program.

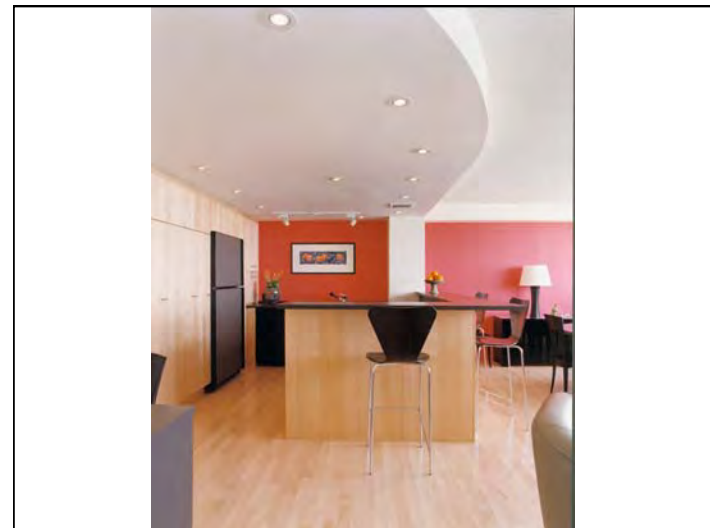
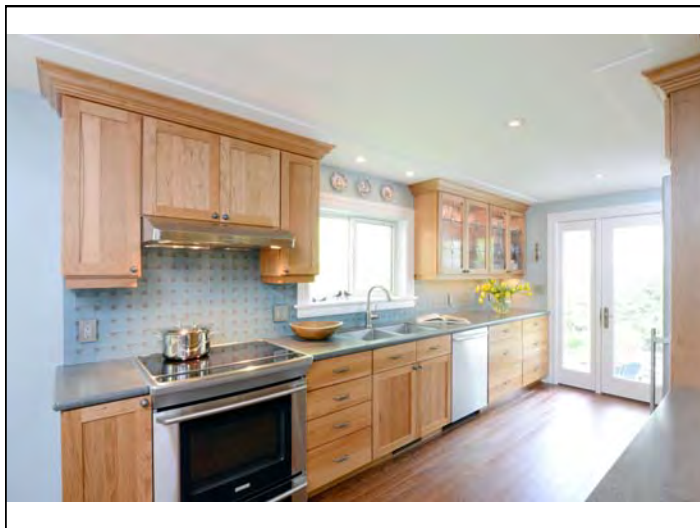
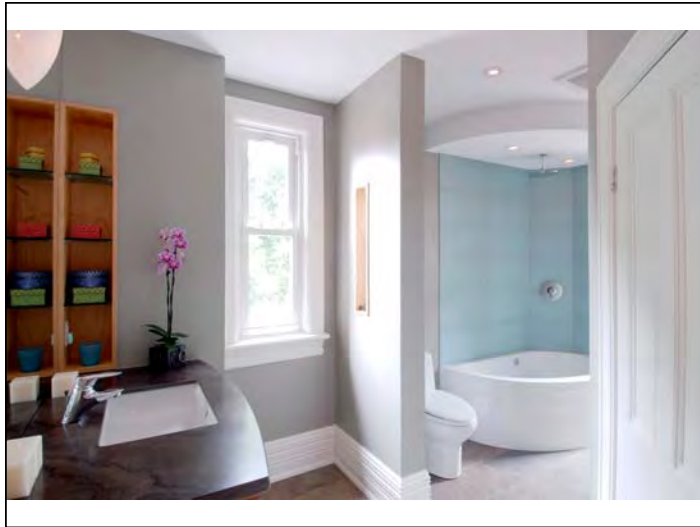
Woods' analytical abilities, depth of knowledge, and drive helped put him at the forefront of the systems approach to building-performance diagnostics and improvement. A tribute released this week by the [Building Performance Institute](#) notes that Woods was a mentor to many. His combination of humor and expertise made him a popular presenter at conferences and training programs offered by weatherization organizations and home performance contractors across North America.

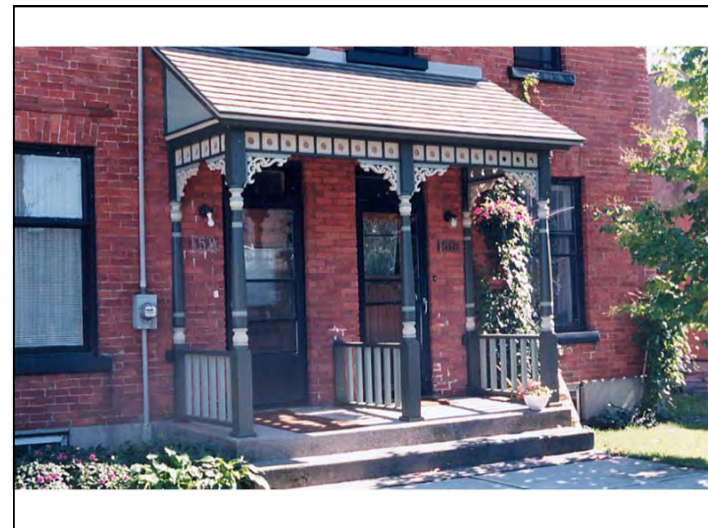
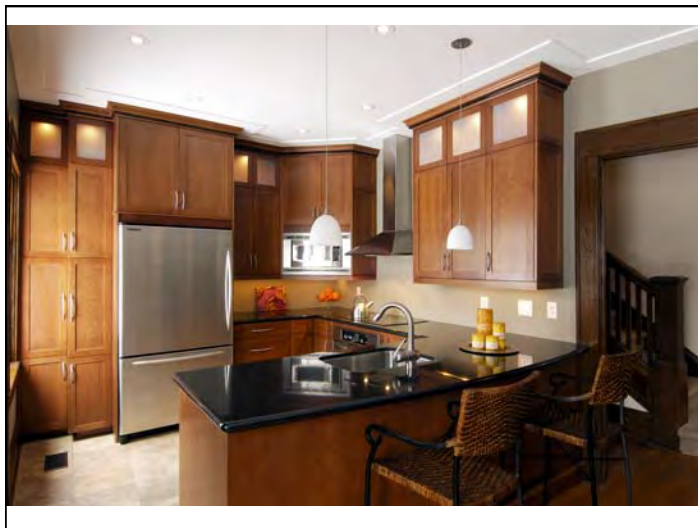
Some of his recent papers:

- "Better, Greener Buildings are in the Air"; ([September 2008](#));
- "Pushing the Envelope: Compartmentalization in High-rise Buildings" ([March 2008](#));
- "Boosting Insulation Performance with Air Barriers" (March 2007); and
- co-written with Steven Tratt, "Tightening the Building Envelope: HVAC brought into the fold" (March 2006).












New England Window Restoration Alliance (N E W R A)
www.windowrestorationne.org

Top Ten Reasons to Restore or Repair Wood Windows (David Letterman)

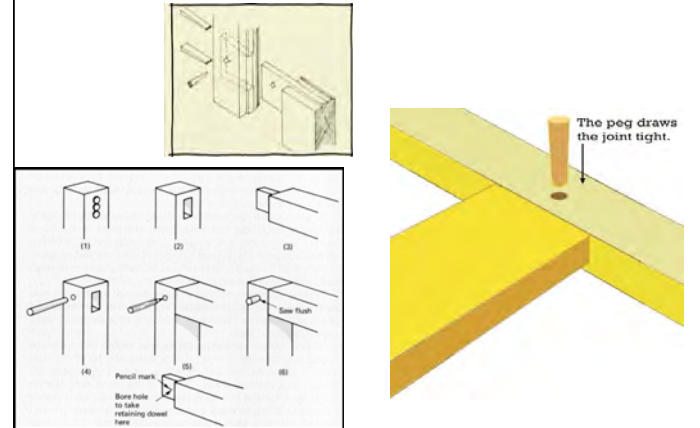
1. Because your windows fit your house.

• To preserve the original design intent in terms of style, massing, etc. Also an old house can move and shift over time, which cause a new window with tighter tolerances not seal or close properly.



2. Because you appreciate good craftsmanship


• Antique windows are built with true mortise and tenon construction which makes them incredibly strong and easy repairable. They have lasted over 100 years and can last another 100.



3. Because you value good materials.


• Antique wood windows are constructed of old growth timber from an ancient cloister forest. Here tree grew very slowly due poor sunlight condition which result in them making a denser cellulose more highly resistant to decay. This wood is no longer readily available.

Old Growth vs New Growth - Wood



4. Because you love the character of antique glass.

• Non Pilkington glass or imperfect glass (some times call Heritage glass) has the wonderful character of air seeds and waviness because of the way it was made.



5. Because you think a warranty should be more than 20 years.

- Most modern windows with thermo panes have a 20 warranty for seal failure. You are fortunate if both the seal and the company last the 20 years. Antique windows do not have a seal to fail. Thus no thermo pane to throw away.

6. Because you want to avoid vinyl.

- Poly vinyl chloride (PVC) is becoming one of the greatest concerns in the building industry. Both its production and is itself releases nasty gases and chemical to the environment. Plus it gets brittle with age making it not a low maintenance or forever choice.

7. Because you want more light.

- Replacement windows are often set into the old window jam opening, thus reducing the size of the sash compared to the originals in turn reducing your visible glass area. Who wants less light?

8. Because windows are a functional part of your house.

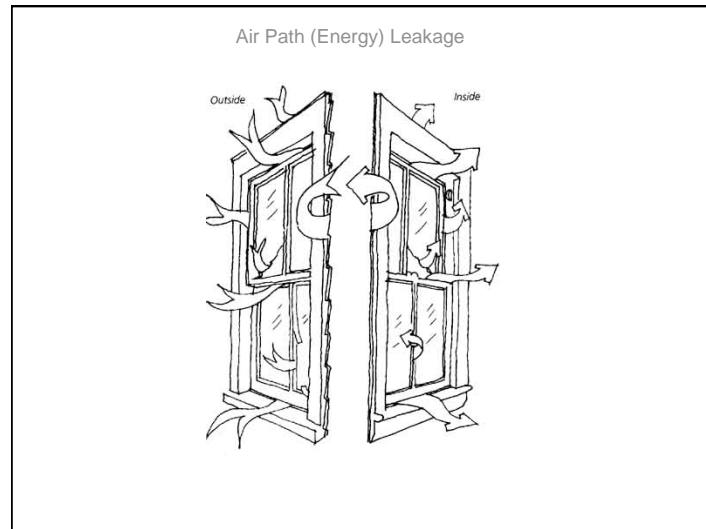
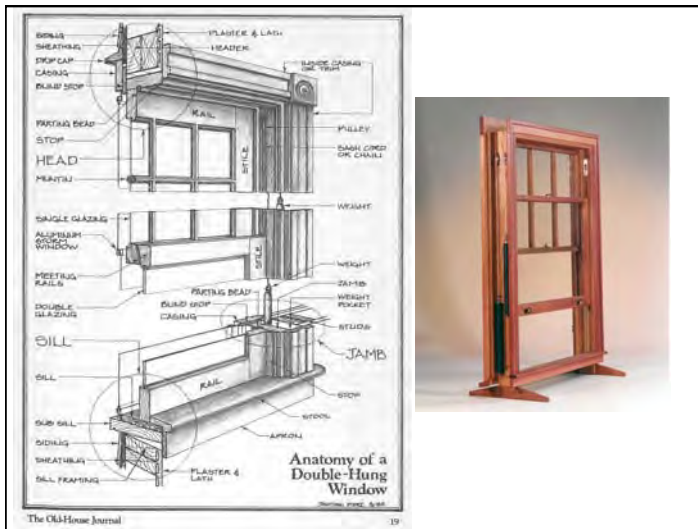
- Weights and pulleys are one of the simplest balance systems every invented. They are easy repairable and last longer then today spring balance systems. Most weight pockets are well sealed by paint and caulking on the inside and outside. Sealed the air you seal the energy transfer. There is even weather-stripping for sash cord pulley.


9. Because you really can save 30-40% on heating costs.

- With a little bit of weather striping Antique windows can be with in the same air tightness or energy efficiencies(with in 5-10%) of a new window. According to the Field Study of Energy Impacts of Window Rehab Choices conducted by the Vermont Energy Investment Corporation, the University of Vermont School of Civil and Environmental Engineering and the U.S. Army Cold Regions Research and Engineering laboratory the estimate first year energy savings between a **restored wooden window with a good storm window** vs. a **replacement window** was **\$0.60**. Good sealing windows and an air tight building envelope will help you reduced you energy consumption by 30-40%.

10. Because the greenest building is one that is already built.

- Replacement windows are touted as a way to save energy. But when evaluated from the perspective of the entire production, shipping, installation and removal process replacing windows consumes a whole lot of energy, or viewed the another way an older building has a great deal of embodied energy. If the total energy expenditure to manufacture replacement windows is considered the break even period stretches to 40-60 years. In the words of Richard Moe, President of the National Trust for Historic Preservation "We can't build our way out of the global warming crisis. We have to conserve our way out. That means we have to make better, wiser use of what we have already built." Repairs and restoration work are done by local craftspeople paying local taxes. The use a minimum of materials and resources and a maximum of labor. Restoring windows is the best use of existing materials and the best way to support the local economy.







AQUA GLAZE
Water Base Glazing Compound

Canning or Sealing Wax


Latex Acrylic Glazing Compound
Cures in 4 hours top coat with latex paint
Stays soft




Pulley seals




PloyFlex V-Strips with adhesive strip plus stapled with stainless steel or Monel staples

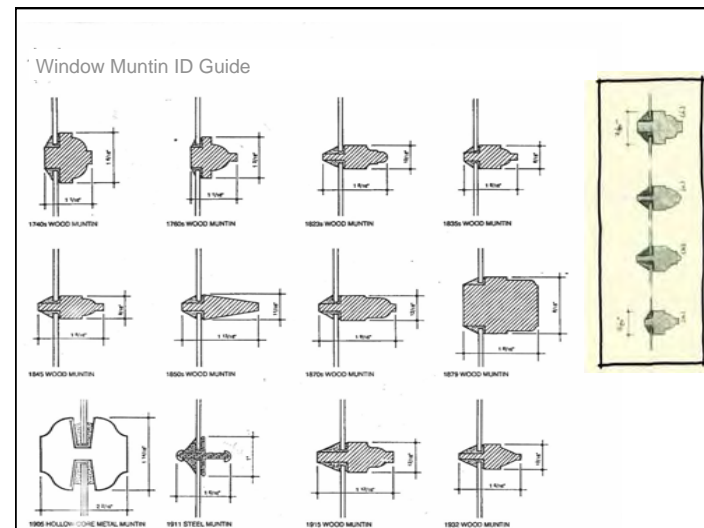
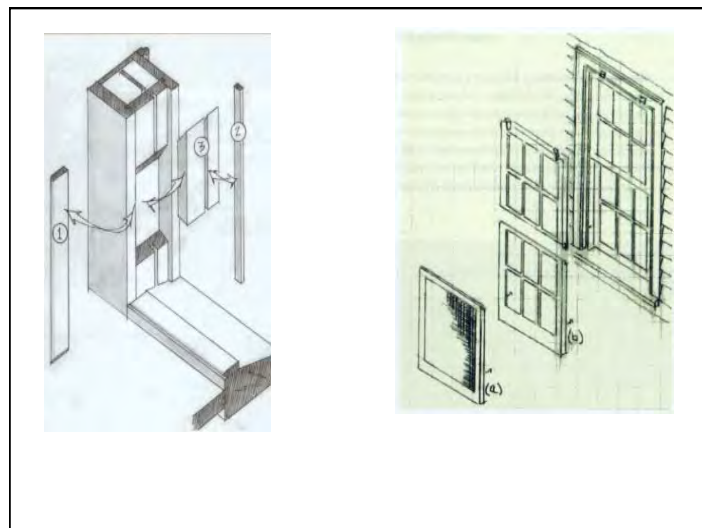
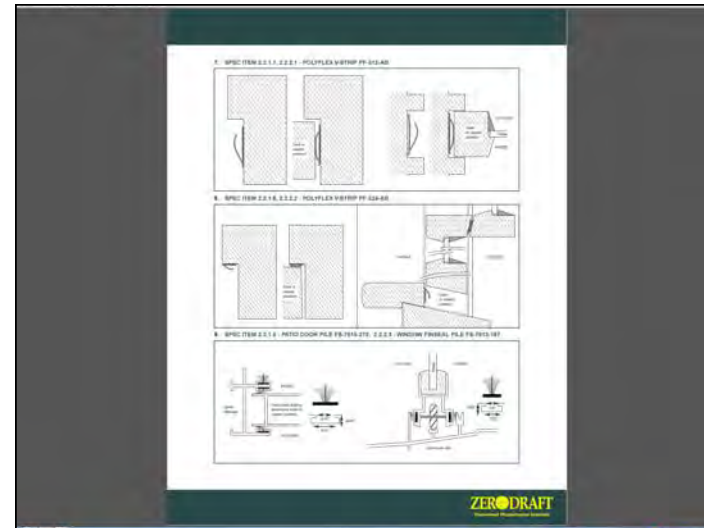




Monel is 100% corrosion resistant staple
Ideal for Marine or outdoor use Monel is used extensively for much of the finished hardware in the Marine trade.
It is also used extensively in areas that are exposed to salt and other corrosive air.
Monel is superior to stainless steel in that stainless steel will oxidize, rust and corrode when exposed to certain corrosive air.



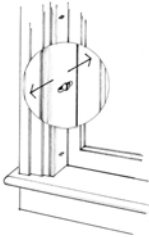


1000 STAPLES
HEAVY DUTY
5061M






Double Hung Window Hardware

Stop Bead Adjuster


Sash Lifts


Fringe or Hook Pull Flush Pull Handle Pull

Double Hung Window Hardware

Sash Stays or Stops





Sash Locks or Fasteners








Victorian Sash Holder 1874

Parlor car style Sash Latch

Left Right

Ventilating Sash Locks


Acme Twin Duplex Cable Balance 1932-Still made in CA



Spiral Balance since 1932



Pullman still made in Rochester, NY



Tape or Clock spring balance 1886



Draught Proof Pulley Cover


Easy to fit in new and existing windows, no silicon sealants or extra weather-stripping required. Just clip it to the pulley and replace - simple.

Mighton's 2" Draught Proof Pulley Cover* completely encloses the pulley, insulating against the draught with a combination of polyurethane foam and a multi-filament brush seal around the sash cord's exit.

Why use the Mighton's 2" Draught Proof Pulley Cover*?

- Simple to fit - no specialist tools needed
- Can be retro-fitted
- Durable hard-wearing plastic
- Other sizes coming soon

Dimensions (mm):
L95 x H50 x D32




Sash Cords





Product #	Diameter	Material	Cable	Strength	Unit of Measure
6	3/16" (5 mm)	cotton yarn	w/galvanized steel cable core	400 lbs.	250 ft. reels
8	1/4" (6 mm)	cotton yarn	w/galvanized steel cable core	400 lbs.	250 ft. reels
8	1/4" (6 mm)	cotton yarn	w/stainless steel cable core*	400 lbs.	250 ft. reels
10	5/16" (8 mm)	cotton yarn	w/galvanized steel cable core	850 lbs.	250 ft. reels
10	5/16" (8 mm)	cotton yarn	no cable	400 lbs.	100 ft.
12	3/8" (9.5 mm)	cotton yarn	w/galvanized steel cable core	2000 lbs.	250 ft. reels

*Stainless steel is excellent for seaside applications or installation in other locations where corrosion and rusting may be a concern.



- Solid Bronze Antique - working load 70 to 160 lbs.
- Solid Brass - working load 70 to 100 lbs.
- Solid Bronze - working load 70 to 210 lbs.
- Stainless Steel - working load 150 to 225 lbs.
- Steel, Antique Finish - working load 75 to 105 lbs.
- Steel, Brass Finish - working load 75 to 175 lbs.
- Steel, Copper Dip Finish - working load 75 to 175 lbs.
- Steel, Nickel Finish - working load 75 to 105 lbs.
- Steel, Zinc Finish - working load 75 to 105 lbs.


Square Stackable Weight Options


Material	Size	Square Dimension	Length
Iron	1 lb.	1 3/4"	1 3/8"
	3 lb.	1 3/4"	4 1/16"
	5 lb.	1 3/4"	6 7/8"
Lead	2 lb.	1 7/8"	1 1/8"
	3 lb.	1 7/8"	2 9/16"
	5 lb.	1 7/8"	3 3/4"

Round Lead Weight Options

Diameter	Size	Length
1.5"	1 lb.	1 9/16"
	5 lb.	7 3/4"
1.875"	1 lb.	15/16"
	5 lb.	4 11/16"

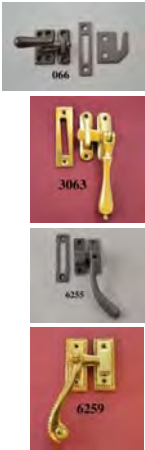


Casement Stays



- 4182
- 71
- 3016
- 4423

Casement Locks



- 066
- 3063
- 6255
- 6259

Flush and Surface Bolts

2145

2115

2116

2168

Cremone Bolts

Z L W I E E C H

Transom Window Operator

M-DK35TW
3 Finishes Available

Pivots

Transom Locks

Transom Stays

Hook

Center Pivot Hinges
our H-102
Opening Bottom of the Window

Center Pivot Hinges
our H-102
Opening Top of the Window

Storm Windows and Hardware

The screen is permanently attached by conventional spline method. Exterior molding enhances your window's appearance.

Patent-pending, concealed storm window. You might not think there is enough space for a concealed storm window, but SpencerWorks' patent-pending design makes it all possible. No additional modifications to your existing windows are required.

Convenient from top to bottom. Easy-tab locks make this storm window a snap to open and close. This tight, rattle-free window glides along a durable pile weather stripping, locking the weather out and keeping your house quiet and comfortable.

Beauty, Strength, Durability. Every SpencerWorks window is handcrafted to preserve the beauty and elegance of traditional architecture. Experience the benefits of our traditional mortise and tenon joinery year after year. In fact, our concealed storm window track actually improves torsional stability and overall rigidity.

Experience perfect alignment. Every SpencerWorks window is measured for precise alignment and built to exacting specifications. The result is a tight, efficient fit and clear view from every direction.

Combination Plus Storm/Screen

Each Combination Plus storm/screen is provided with screen and glass removable inserts
 All glass is clear annealed window glass set in a rolled aluminum channel (white or brown) with a vinyl glazing strip and pile weather strip
 All wood is clear pine — no finger joints

Specifications

Storms/screens are manufactured 1-1/8" thick
 Top Rail and Stiles: 2-1/8" wide
 Bottom Rail: 3-1/2" wide
 Storm Cross Bar: 1-1/4" wide

Options

Factory priming
 Preservative treat to AWI specifications for long life
 Segment head (curved), half round top, rounded corners
 Custom sizes
 Custom glass (Restoration glass, Low E glass, etc.)
 Various woods available (Mahogany, etc.)



Traditional Three-Part Storm/Screen

Each Traditional 3-Part storm/screen is provided with a top removable glazed window panel and interchangeable wood putty glazed storm and wood screen with aluminum screen wire
 All glass is clear annealed window glass
 All wood is clear pine — no finger joints

Specifications

Storms/screens are manufactured 1-1/8" thick
 Top Rail and Stiles: 2-1/8" wide
 Bottom Rail: 3-1/2" wide
 Storm Cross Bar: 1-1/4" wide

Options

Factory priming
 Preservative treat to AWI specifications for long life
 Different types of screen material (bronze, aluminum mill finish, etc)
 Segment head (curved), half round top, rounded corners
 Custom sizes and shapes (curved, half round top, rounded corners)
 Custom glass (Restoration glass, Low E glass, etc.)
 Various woods available (Mahogany, etc.)



Ready-to-Assemble (RTA) Storm Kits

(this option is only available for traditional storm windows)
 Adams Architectural Millwork Co. has developed a product for the Do-It-Yourselfer: Our Ready-to-Assemble Storm Window Kits include mortised and tenoned sash parts. You purchase the glass and putty and save approximately 30% on material and shipping and provide the labor yourself.
Ready-to-Assemble (RTA) Kits Include:
 •Pre-tenoned and mortised sash parts
 •Priming optional
 •Preservative treat optional
 •Instruction manual
 •Does not include glass, putty, sash pins (nails)
Benefits of RTA:
 •Reduced shipping expenses
 •Approximately 30% savings over a fully-assembled unit
 •Ability to put sweat equity into the storm windows without the need for equipment

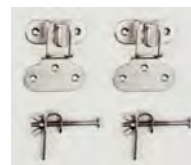


Storm Hardware


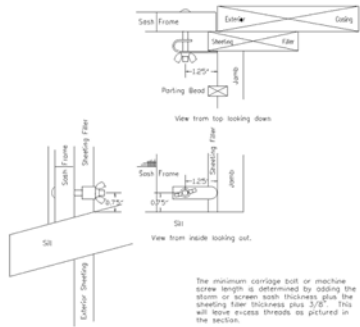
Storm Stays



Storm hangers & Sash Clamps




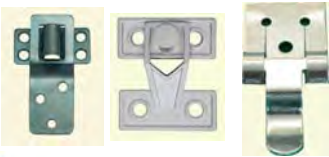
Sash Clamps

The minimum carriage bolt or machine screw length is determined by adding the storm or screen sash thickness plus the sashery fiber thickness plus 3/16". This will leave excess threads as pictured in the section.



Hangers

Stainless Steel Hangers





Mill Matt Polish Satin Bronze

Spring Clip

Flush Matt Finish 1/4" Inset Polished Finish



For Heavy Sash 1 1/8" or more in thickness


Applied Two-thirds full size 1714

Cam Locks






Storm Window Number Tacks



Type 18-8 Stainless Steel Hook & Eye



Type	Item No.	Size	Hook Wire Diameter	Overall Length of Hook	Hook Leg Length	Eye Wire Diameter	Inside Diameter of Eye	Overall Length of Eye	Thread Length of Eye
C	104241	1"	0.11"	0.96"	0.69"	0.10"	0.20"	0.94"	0.39"
T	104242	1-3/8"	0.14"	1.39"	0.80"	0.14"	0.24"	1.18"	0.55"
T	104243	2"	0.15"	1.96"	0.90"	0.13"	0.24"	1.18"	0.55"
C	104244	2-1/2"	0.17"	2.43"	1.05"	0.16"	0.26"	1.38"	0.60"
C	104245	3"	0.17"	2.91"	1.08"	0.16"	0.25"	1.38"	0.63"
C	104246	4"	0.20"	4.01"	1.41"	0.20"	0.32"	1.57"	0.71"
T	104247	6"	0.24"	5.95"	1.65"	0.24"	0.31"	1.96"	0.90"
T	104248	8"	0.24"	7.98"	1.65"	0.24"	0.31"	1.96"	0.90"



Pro Scraper **J-4000 Pro-Line Series Jiffy® Steamers**

Dust Free Scraping

Professional Series / J-4000
 The J-4000 Pro-Line Series is Jiffy® Steamer's most powerful model designed for commercial purposes. This steamer has a durable die cast aluminum outer housing unit with a built-in, easy-to-read water level sight gauge, 1500 watt incoloy heating element and a stainless steel internal steam chamber. The J-4000 offers convenient pre-heat and steam settings, which allows you to have steam on demand. The unit takes 15 minutes to reach a PREHEAT temperature and then 5 more minutes to achieve full STEAM. The J-4000 will steam for 2 hours per filling.

A Safer, More Efficient Alternative

Because the steam softens the paint film, you can scrape it away more easily for house restoration and historic preservation projects. Effective for removing paint from wood exteriors, interior walls, and window work, steam offers advantages over mechanical scraping and shaving, chemical stripping, and dry-heat methods in these areas:

- Helps control lead health issues and eliminate the lead fume risk.
- Reduces the risk of fire, compared to dry-heat methods, by keeping the paint surface below 212 degrees Fahrenheit.
- Avoids fumes from chemicals and heat decomposition of binders in old paint that are common with chemical and dry-heat methods.
- Uses a portable steamer that can be transported easily to work sites, even up on scaffolding.
- Requires moderately priced equipment (\$100 to \$300), with lower operating and supply costs than chemical paint removal.
- Lowers residue disposal costs compared to chemical paint removal.

History of Steam Stripping

"I first learned about steam paint removal in the 1970s, when a preservation contractor experimented with steam to remove heavy paint from the side of a house in New Hampshire. According to the story, the steam removed paint all right, but the steam-generating equipment was, perhaps, too dangerous, so the contractor dropped the idea. Fast-forward to the 1990s, when there were reports of British workers steam-blasting graffiti off of stone in England and someone from Australia using a wallpaper steamer on paint. I just kept scraping away with my noisy hot-air gun and gooey chemicals.

Then in the late 1990s, my colleague Marc Bagala developed the steam chamber method of removing all of the paint and putty from a window sash by sliding it into a stainless-steel, steam-filled enclosure from an industrial-grade steam generator. I took the students in one of my window workshops to see this marvel, and it really works."

[Get up to Speed with Steam](#)
Old House Journal by John Leeke June, 2006



Dave Bowers

"Later, one of my students, Dave Bowers, a window restoration specialist in New Hampshire, built a steam box powered by a portable steamer. Dave told me it worked great just holding the steam head on the sash. So, after encountering decades of examples of steam at work on paint, it finally dawned on me that the right steamer would work on any surface with heavy paint buildup. Now I use a steamer routinely and have trained a half-dozen crews around the country in its use."

[Get up to Speed with Steam](#)
Old House Journal by John Leeke June, 2006



Weare, New Hampshire



How It Works

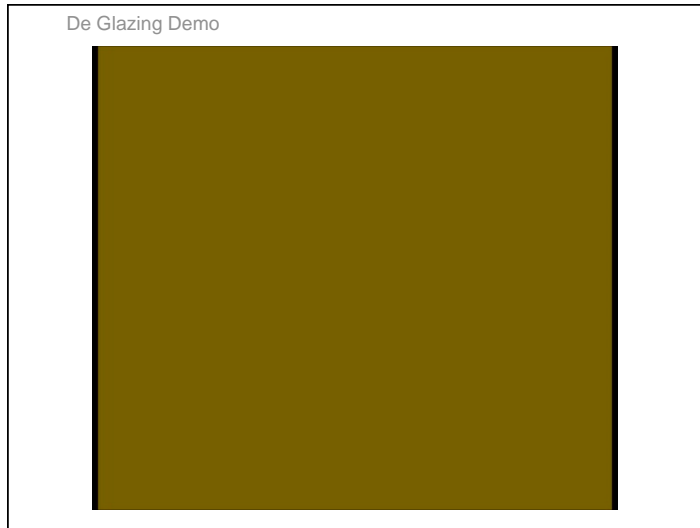
Steaming makes paint removal easier in two ways. First, it softens the paint film by heating it throughout to between 190 and 200 degrees. As the water vapor condenses on the cooler surface of the paint film, latent heat in the water vapor penetrates the paint film by conduction. At first, the thin film of water forming on the paint surface helps conduct heat. As the film of water on the surface thickens, it impedes the transfer of heat. The paint warms up more quickly on vertical surfaces because the water dribbles away, allowing more vapor to condense closer to the paint surface.

Furthermore, steaming loosens the paint from the wood by introducing water between the paint film and the wood surface. This interaction occurs when there are breaks in the paint film, such as alligatoring, cracks, and areas of missing paint. Moisture migration occurs by simple capillary action, not by the pressure supplied by the steam generator. Sometimes, I notice the steam traveling between layers of paint because water percolates up out of the cracks in the paint film outside the steam head.

Spraying steam with the hose of a wallpaper steamer has little effect on the paint because the rig does not transfer enough heat to the paint film. The steam is too busy condensing within the air and loses its latent heat before reaching the paint surface, and the water vapor must reach the surface of the paint film to soften and loosen it. By using a steam head to exclude air as the steam approached the surface, we were able to transfer heat more effectively. Currently, we are making our own steam heads to match the size and shape of the house parts on which we work.

Pro Scrapper Video





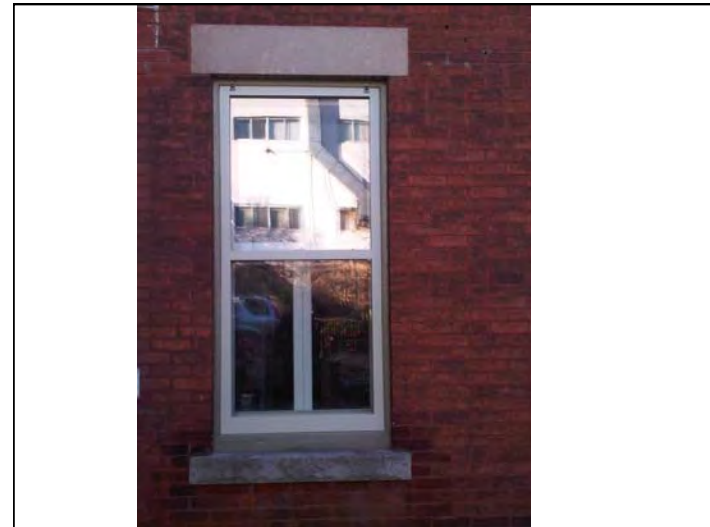
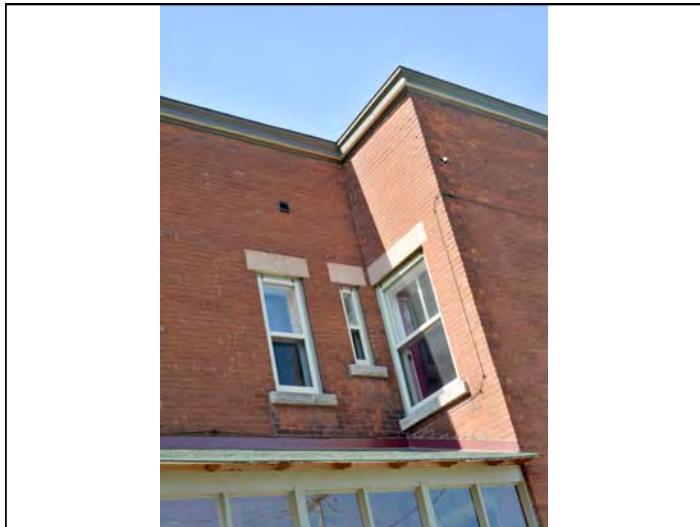
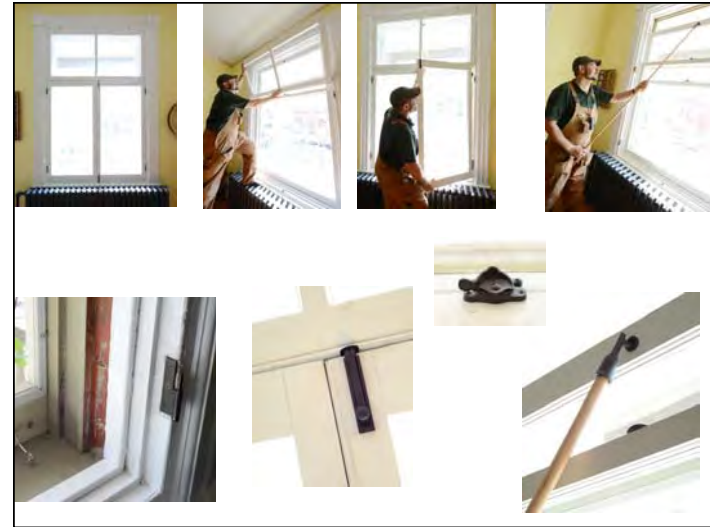
The Alexandre Taché House
172-174 Champlain Street, Gatineau,

This duplex, built in 1911 by the contractor Joseph Bourque, combines elements of the Beaux-Arts and Italian styles. When Arthur Bourque, Joseph's son, inherited it in 1918 it, he was already occupying the entire building. Ten years later, Bourque went bankrupt and his sister Alexina repurchased the house from the receivers. She sold it to Lucien Massé, a prominent accountant, who rented it to two tenants.

On August 5, 1942, Marie-Berthe Lafamme, wife of Alexandre Taché, bought the house and transferred ownership to her husband on December 14. The Tachés did not move in right away, because the building was occupied by two tenants, Ludovic Blain, a notary, and Albert Couture, a jeweller. In 1944, the Taché family moved into 174 Champlain while Blain remained in 172 until 1947. When he left, the family moved into 172, leaving their previous flat to a nephew, Herbert Huard, a civil servant. Needing more space, Taché had a door installed between the front bedrooms of the two units, and for several years, closed off the main entrance to 172. Mrs. Taché left the house around 1964. Her tenant, Mrs Flora A. Vaney, bought it on October 30, 1967.

The man who left his mark on the history of this house was born in Saint-Hyacinthe, on August 17, 1899. Alexandre Taché was the son of Joseph de La Broquerie Taché (1858-1932), a notary and journalist, who moved to Ottawa in 1914 to work as King's Printer and Parliamentary Librarian. Among his great-uncles and uncles were Etienne-Paschal Taché (1795-1865), Prime Minister of Lower Canada and Father of Confederation, and Mgr. Alexandre Taché, Archbishop of Saint-Boniface, Manitoba, from 1851 to 1894. His mother, Marie-Louise Langevin (1864-1936), was related to Hector-Louis Langevin, another Father of Confederation.







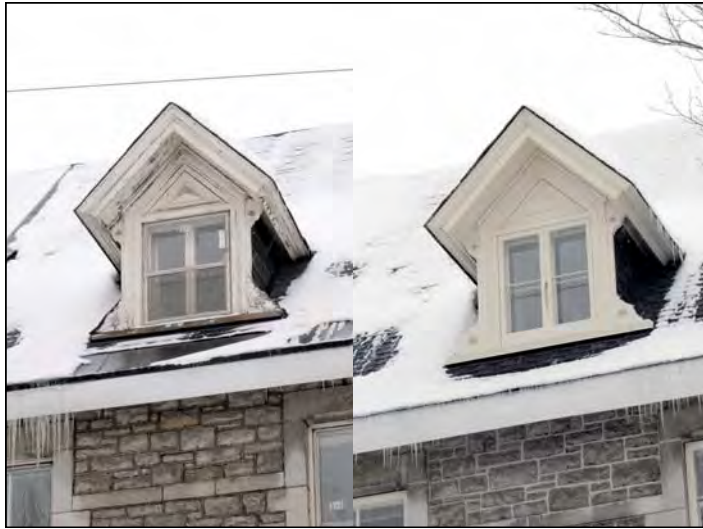
Philomene House ■ Porch & Windows

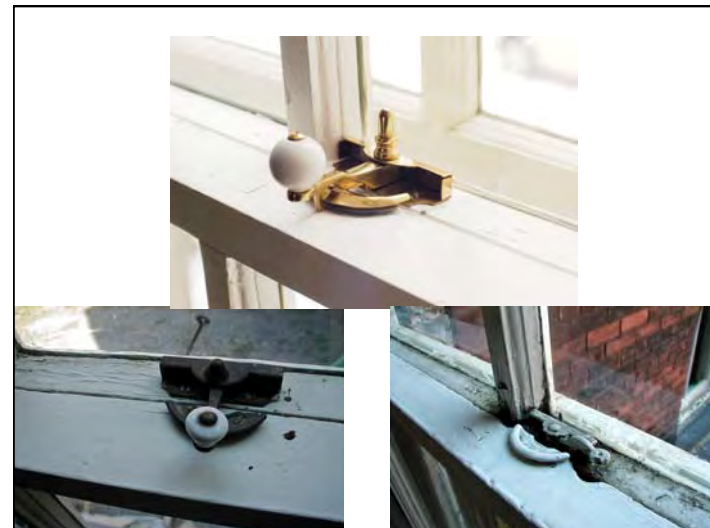
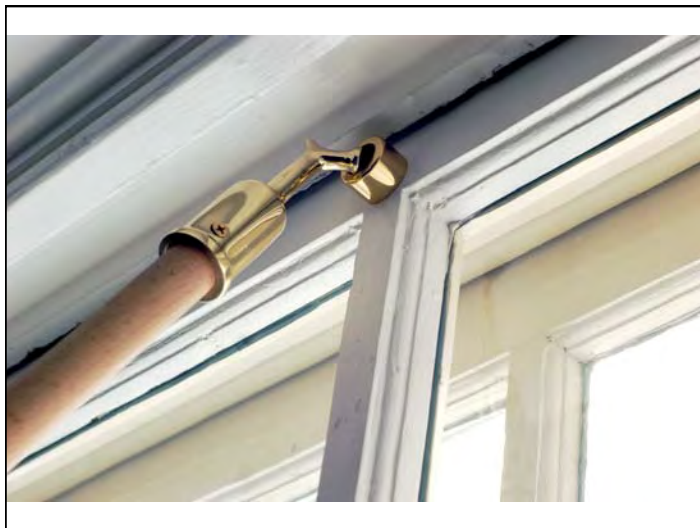
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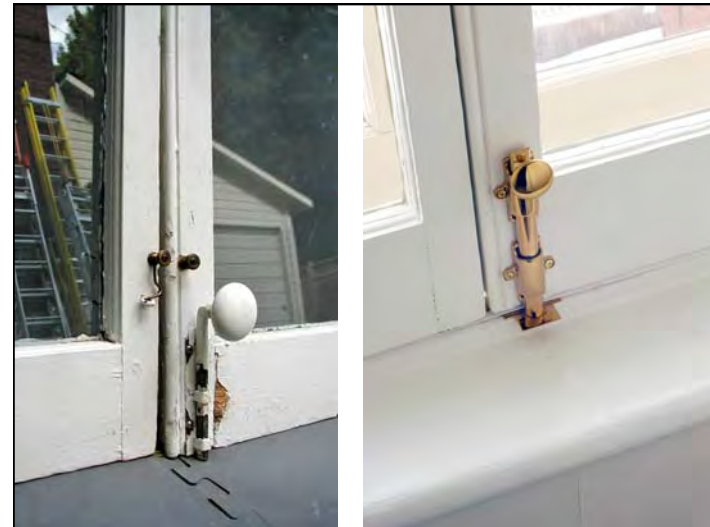
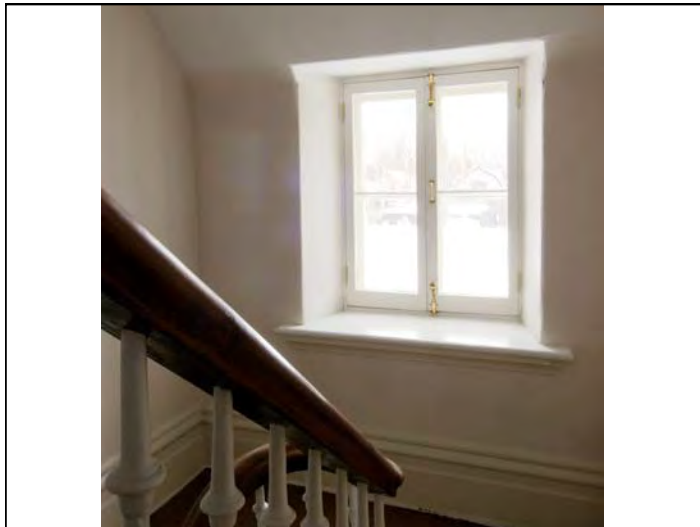


1867









Hardware Links

Architectural resource Center www.aresource.com
 Acme Duplex Sash Balance www.acmeduplex.com
 Charleston Hardware Company www.charlestonhardwareco.com
 Crown City Hardware www.restoration.com
 Deltana Hardware www.deltana.net
 Ed Donaldson Hardware Restoration www.eddonaldson.com
 Eugenia Antique Hardware www.eugeniaantiquehardware.com
 Gate Latch USA www.gatelatchusa.com
 Harwick Architectural Hardware Company www.theharwick.com
 Historic House Parts www.historichouseparts.com
 House of Antique Hardware www.houseofantiquehardware.com
 Merit Metal Products since 1876 www.meritmetal.com
 Phelps Company www.phelpscompany.com
 Pullman Tape Spring Balance www.pullmanmfg.com
 Rejuvenation www.rejuvenation.com
 Restoration Hardware www.restoration.com
 Wm. J. Rigby Company Antique Hardware www.wmrigby.com
 Wm. Kilian Hardware Company www.kilianhardware.com
 Van Dyke's Restorers www.vandykes.com
 Vintage Hardware www.vintagehardware.com

Window Restoration Links

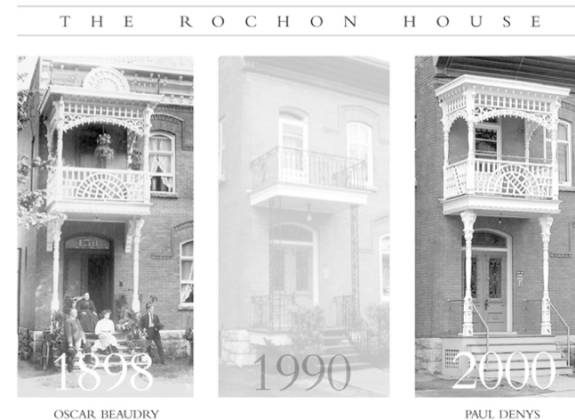
Adams Architectural Millwork Co. www.adamsarch.com
 Bagala Window Works Inc. www.bagalawindowworks.com
 Olde Window Restorer www.oldewindowrestorer.com
 Spencer Works www.spencerworks.com
 Smith Sash Restoration www.smithrestorationsash.com
 Vintage Wood works www.vintagewoodworks.ca
 Window Woman of New England www.window-woman-ne.com

Restoration Media

Restore Media www.restoremedia.com

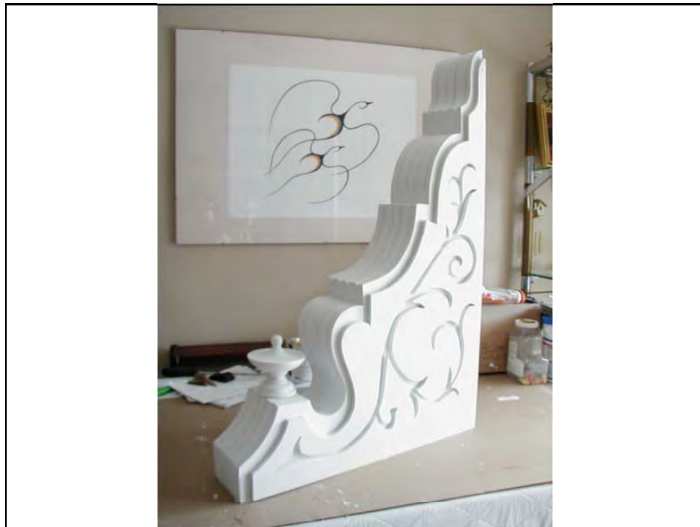
Rochon House ■ Porch

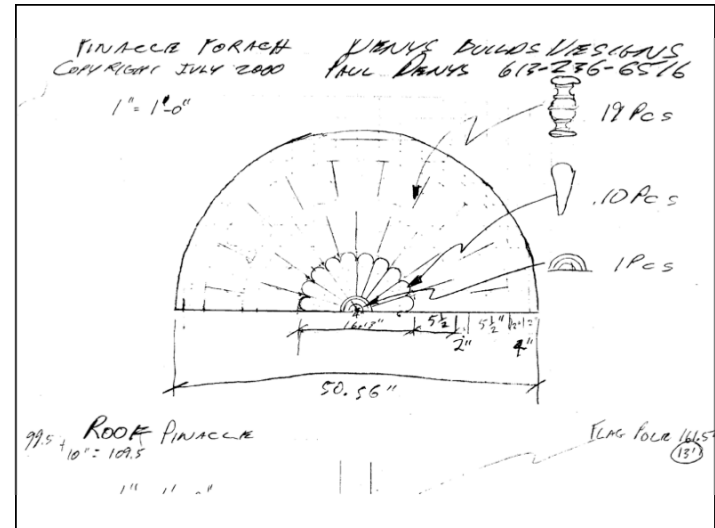
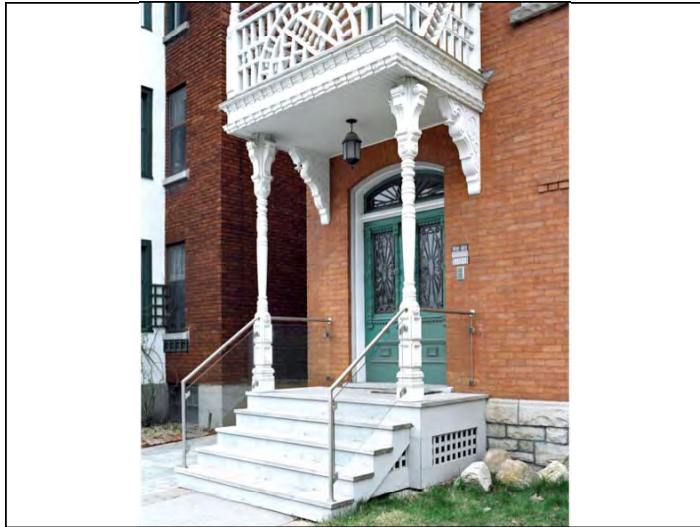
Labour of Love

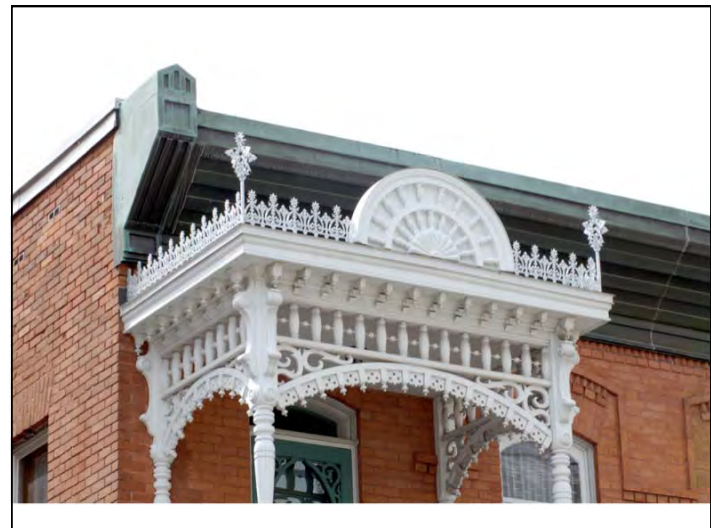


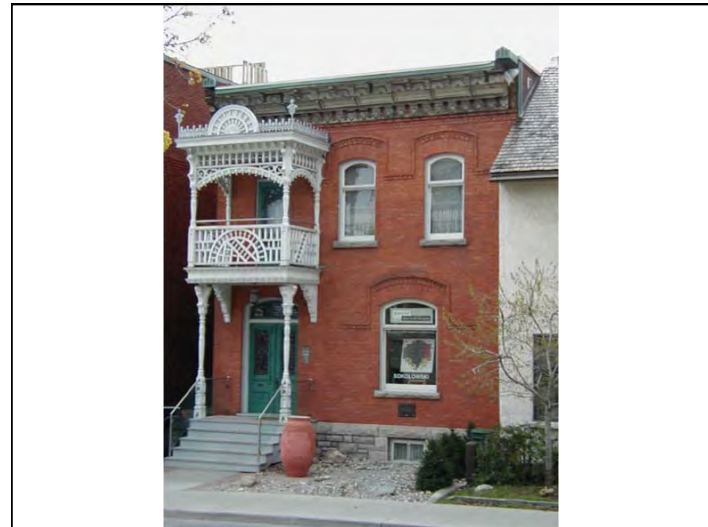




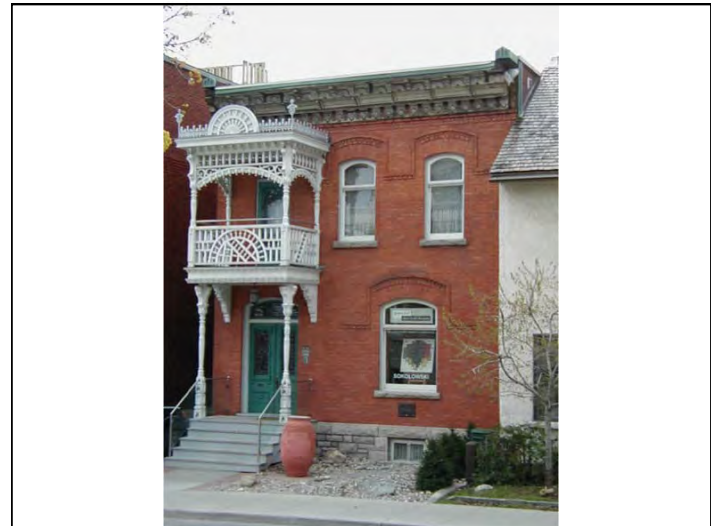


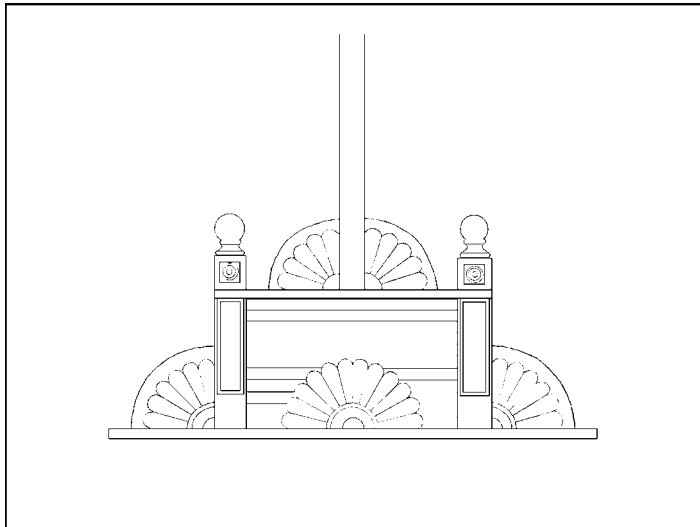


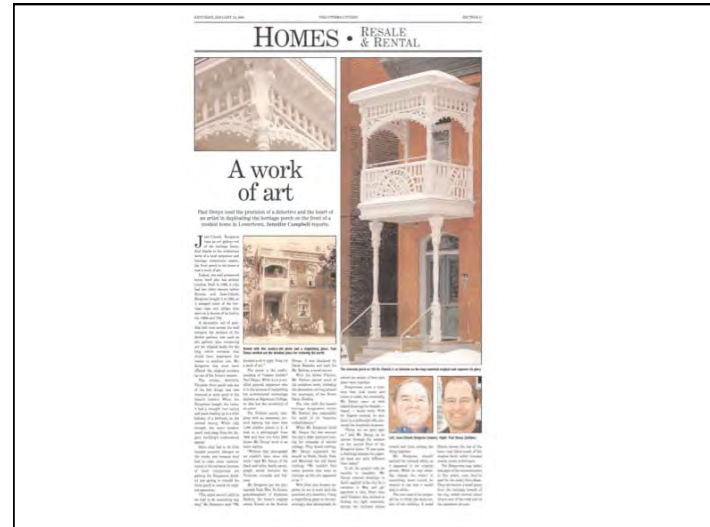


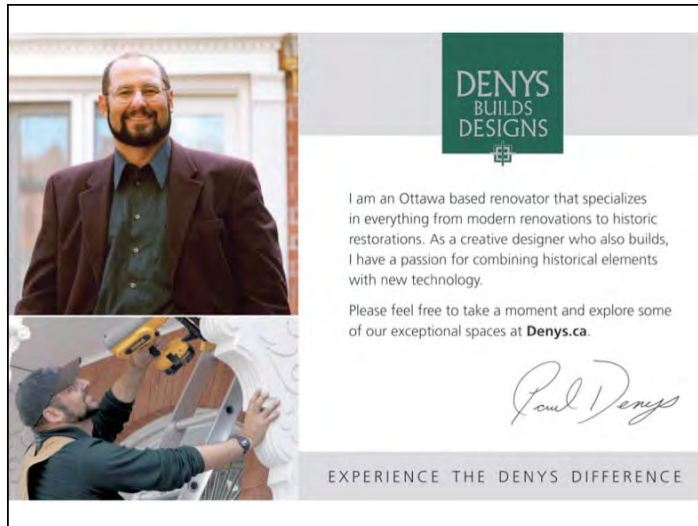












DENYS
BUILDS
DESIGNS

I am an Ottawa based renovator that specializes in everything from modern renovations to historic restorations. As a creative designer who also builds, I have a passion for combining historical elements with new technology.

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Paul Denys

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