

# Setting the Stage at the Elgin and Winter Garden Theatres: Conservation of the *Butterfly Scenery* Flats

Janice M. Passafiume

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# Setting the Stage at the Elgin and Winter Garden Theatres: Conservation of the *Butterfly Scenery* Flats

Janice M. Passafiume

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*This paper describes the history and treatment of the Butterfly Scenery Flats, an original painted theatre set used for light interior comedy routines in the vaudeville era. The flats date from 1915 to 1920 and were used in the Loew's vaudeville theatre in Toronto, now known as the Elgin and Winter Garden Theatres. Conservation treatment of the matte, glue distemper paint on stretched canvas involved the following processes: detailed documentation, surface cleaning using sponges and erasers, local consolidation with Acryloid B-72, Rohatol B500, and also dilute gelatin applied using a mini-suction plate and a nebulizer mister, reinforcement of canvas folds with BEVA film and polyester fabric strips, reintegration of losses using acrylic gesso, UVS matte varnish, Methocel, and chalk pastels in application methods that compensated for the visual limitations and ageing properties of the materials, and finally, cami-lining. A selection of the Butterfly Scenery flats was installed in the Elgin & Winter Garden Theatres in 2001.*

*Cet article décrit l'historique des décors théâtraux intitulés "Butterfly Scenery" ("scène avec papillons") et leur restauration. Cet ensemble de toiles dépeignent une scène théâtrale utilisée lors de comédies légères de l'ère vaudeville. Les toiles datent de 1915 à 1920 et furent installées dans le Théâtre de vaudeville Loew à Toronto, connu aujourd'hui comme les Théâtres Elgin et du Jardin d'hiver. Il s'agit de toiles sur châssis, et de peinture matte à la détrempe de colle. Le traitement de restauration a compris les étapes suivantes : une documentation détaillée, un nettoyage superficiel au moyen d'éponges et d'effaces, la consolidation à l'Acryloid B72, au Rohatol B500 et aussi à la gélatine diluée appliquée au moyen d'une mini-table à succion et un nébulisateur à ultrasons, le renfort des endroits ayant été endommagés par des plis au moyen du film BEVA 371 et des bandes de toile polyester, la réintégration des lacunes au moyen d'un gesso acrylique, d'un vernis UVS de matité moyenne, du Methocel et de pastels en craie en se servant des méthodes d'application qui ont pu contrebalancer les écarts visuels et l'effet de vieillissement des matériaux, et enfin le rentoilage-cami. Une sélection de ces toiles de décor fut installée dans les Théâtres Elgin et du Jardin d'hiver en 2001.*

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## Introduction

In 1913, vaudeville came to Toronto. The Loew's Company in New York, a renowned chain of theatres presenting live entertainment, transported entire theatrical interiors to the Loew's Yonge Street Theatre, Toronto, Ontario. These interiors included the seats, curtains, gilded decorations and a large selection of interchangeable scenery, that is, painted canvas stage sets (flats) and backdrops (rolled curtains). Included in the scenery were the *Butterfly Scenery* flats. The production of this form of painted scenery dates from between 1915 and 1920, and it is assumed that the *Butterfly Scenery* flats are synonymous with this period (dates provided by Ontario Heritage Foundation, researcher; Hilary Russell).

The Elgin and Winter Garden Theatres was a popular venue for live theatre and silent films until 1928 when the 'talkies' lured entertainment in new directions. Initially, the Elgin Theatre, a more formal display of gilding and lush painted surfaces, was re-wired, updated, and transformed into a movie palace. The Winter Gardens was closed. For over fifty years, the considerable collection of scenery flats and curtains were stored unprotected backstage, leaning in bulk or layered rolls. This is considered to be the world's largest collection of original vaudeville scenery.

Today, the lower Elgin Theatre and the upper Winter Garden Theatre are considered the only operating bi-level theatres from this period<sup>1</sup> and the complex has been designated an historic site.

The complex underwent extensive restoration between 1987 and 1989, funded by the Ontario government plus private and corporate donors. The whole ceiling in the Winter Garden Theatre, decorated with hanging dried and silk foliage, was cleaned and reassembled, leaf-by-leaf. Fresh, live leaves were dipped in glycerine as a preservative and then attached to the ceiling where originals were missing. Gilded carvings and painted stucco walls, reproducing in the entire space a lavish natural-like setting, were cleaned and repaired. This restoration cost \$29 million and extended over two and a half years. The age of vaudeville was resurrected. In addition to the building restoration, projects for the conservation treatment of stage props were commissioned, the most recent being the *Butterfly Scenery* flats, otherwise known as the Butterfly Flats.<sup>2</sup>

This paper describes the examination and treatment of the *Butterfly Scenery* flats undertaken by JANA Conservation from July 2001 through February 2002 to prepare the flats for installation in the Cascading Lounge in the Winter Garden lobby on the 5<sup>th</sup> floor of the Yonge Street building.

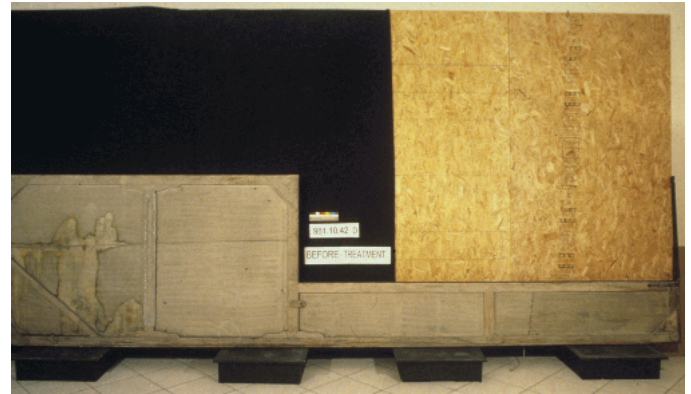
## Description

The *Butterfly Scenery* Flats were the scenery set used for light interior comedy routines in the vaudeville era. They depicted the inside of a formal room, designed in wainscoting and decorated with large blue, green and purple painted butterflies on a contrasting background (**Figure 1**). Eighteen interchangeable



**Figure 1.** Section of a single *Butterfly Scenery* door flat before treatment. Dimensions: 4.88 m by 1.75 m.

panels or flats are 4.88 m high and generally of standard widths of 1.75 m, with the following exceptions: i) two panels had moveable doors, ii) two hinged flats had windows that looked



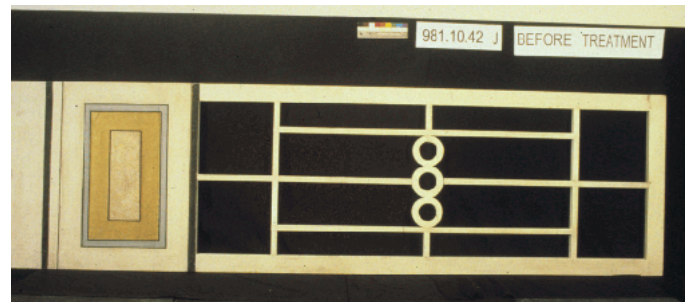
**Figure 2.** The folded, hinged flat shows the extended metal bar that stays aligned when the flats are opened.

onto an unrolled backdrop garden scene, iii) one larger hinged flat had a rod for a hanging curtain, iv) two panels were half-sized in width, and v) another had a trap door behind a fireplace. The panels were hung from the rafters by heavy ropes and sandbag counterweights.

#### *Supporting Structure and Hinging*

Each flat is constructed from a tempered pine framework. The corners are fixed with wooden triangles and cross-members attached with internal dowels and glue. The standard width of the flats was designed to precisely fit through the boxcar door of a train, the means of transport for the flats from Loew's central studio.

The larger flats are hinged together and were folded for moving, forming an L-shape. Metal hinges were hidden under the fabric. Hinged flats and flats with doors are secured with interlocking steel bar trim along the bottom edge and partially up the sides (**Figure 2**). Lightweight, decorative doors are of a standard size with 2.5 x 2.5 cm wood members in patterns of open tracery (**Figure 3**). The lower section of the flat houses a painted canvas matched to the larger formats. This will be further described.



**Figure 3.** While these door flats were in use, garden scenery was hung behind the doors, a distance back, to give the illusion of depth.



### Canvas Preparation

A heavy cotton canvas is glued and nailed directly onto the front of the wood framework in preparation for painting. All panels have a vertical seam where the selvages of standard width fabric were sewn together. Before the gesso and paint were applied, a size layer would have pulled the canvas very taut, creating a suitable surface for painting. Glue size was detected on the verso, oozing between the threads of the canvas weave. The recto, verso and edges of the canvas were prepared with a glue/chalk ground.<sup>3</sup> The wood of the flats and the doors were painted with the same glue/chalk medium.

### Design Layers

Historical photographs depicting the working methods of the Loews' artists reveal a production-type method of manufacture.<sup>4</sup> Fabric was secured to the ceiling, rested against a wall, or the flats were laid horizontally. Several artists worked on one piece – each painting their specialty. The tasks were possibly divided into the painting of background outlines, butterflies, details, and textural effects. On the gesso ground, the lines were first blocked out in charcoal followed by distemper painted linear outlines, then an overall beige layer of distemper medium was applied as a base for all colours. Decorative stencils were utilized in the borders<sup>5</sup> and texture was created with layers of white or gold metallic paint using natural sponges. The paint consisted of glue and pigment distemper with a high chalk content. It was traditionally mixed in batches and the logistics of duplicating paint in exactly the same pigment/glue/water ratio was highly unlikely. The inconsistencies were noticeable from flat to flat, and even in the same colour within a flat. In addition, many isolated or entire areas had been repainted and this changed both the opacity and tone of the paintings and greatly affected the solubility properties (**Figure 4**).

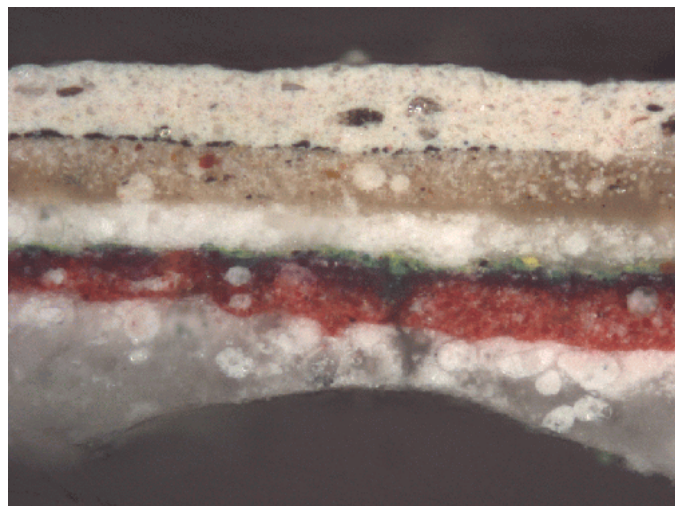
### Varnish Layer or Coating

There was no overall coating or sealant on the flats. However, on the verso, and in some oversprayed areas on the recto, remains were found of a fine spray pattern that was, at one time, suspected of being a fire retardant. Analysis undertaken by the Canadian Conservation Institute (CCI) identified the presence of poly (vinyl acetate) and found no indication of a fire retardant salt.

### Condition

Generally, despite the passage of time, the conditions of storage, and the large bulky size, the flats were discovered to be in generally satisfactory condition. The canvases were mostly in plane, with some exceptions, and the seams were still secure. Gentle ripples and bulges were visible when the flats were upright and leaning, but when the flats were suspended, the canvas became realigned. The wood was in sound condition, with little warping.

Most physical damages were due to the logistics of moving and storing oversized objects. Numerous recent dents and tears



**Figure 4.** This cross-section, prepared at CCI, shows that this part of the flat was originally a different colour from the visible layer; the ground layer was covered with both a green and red paint layer before the visible beige and black lines were applied. (Photo credit: Elizabeth Moffat and Marie-Claude Corbeil, Analytical Research Laboratory, Canadian Conservation Institute)

were apparently the result of contact with adjacent flats, especially the metal trim. Small holes, abrasions, stains, and accretions were present as were an abundance of fingerprints from handling (**Figure 5**).

Many of the iron nails were rusty as a result of the uncontrolled relative humidity and temperature behind the stage. Staining from iron corrosion was migrating through the paint that covered the nail heads.

There were signs of ageing in the paint layer in the form of fine networks of stable cracking, but generally there was very little active cleavage. The upper paint layers in some image areas were flaking, revealing different colours below.

Strainer creases corresponded to the lengths of the outer, inner, and diagonal wooden support members. These deep cracks extended through to the canvas or ground layer. Only the smaller, rectangular garden doors showed signs of cupping of the paint layers.

### Old Restorations: Contemporary with the Period

Old damages had been repaired using a burlap fabric patch, glued directly to the back of the canvas. These losses or abrasions were broadly overpainted on the recto.

There were numerous areas of overpainted damages as well as corrections to the composition, applied in rapid and broad applications of paint in a medium exhibiting the same visual properties as the original layer; a standardized material used to this day in theatre painting.<sup>6</sup> These restorations were likely carried out by stage crew during production use.



**Figure 5.** Detail of paint layer before treatment, showing cracks, abrasions, and overpaint.

Some restorations were particularly invasive. For example, a liberal glue repair applied to remedy severe water damage had caused disfiguring shrinkage of the underlying canvas and permanent discolouration of the paint layer.

#### *Old Restorations: Modern*

The flats had been previously cleaned with bread dough during the full restoration of the theatres in 1989. Cleaning patterns in arc-shapes were visible on the verso of the canvas, although the wooden members were still laden with black soot. Recent sooty fingerprints from handling were visible on the surface and black deposits of mould or soot were embedded in the strainer creases.

Minor repairs and retouching appeared more modern in some cases. For example, new clean tears, repaired with duct tape, indicated that the associated retouching was recent.

The wooden cross-members had been covered with polyester batting in an attempt to prevent further development of the strainer

creases. The batting had become compressed and was covered with soot.

### **The Challenge**

The contract for treatment of the *Butterfly Scenery Flats* did not specify how many pieces were to be displayed, nor which ones should be selected for treatment or for installation. Our task was to choose the flats in the best condition and arrange them into a display area thirty-three feet wide, ten feet off the ground, against a free standing wall, over an intake air vent. The environment in the working theatre was uncontrolled, by museum standards, and recommendations for maintenance, long-term preservation and or storage of undisplayed flats were to be provided as well.

A tiny mock theatre was constructed from Fome-cor using scaled down dimensions of all the flats. Various scenarios were submitted to representatives of the OHF and the Elgin Theatre. Naturally, the most complicated scenario was chosen – the reconstruction of a stage.

#### *Historical Considerations*

Restorations carried out or changes made during the theatre days were respected as working practices and reflections of the period. For example, some holes in the flats located at eye level were thought to have been intentional, to allow the actor to see from behind the scenes, although all of these were previously covered.

Corrections to the composition and broad areas of overpaint, although discoloured, were deemed to be historically significant. The task was to make the distinction between historically important alterations, damages to the flats and modern repairs, and to select a method of stabilization that would result in the least intervention.

### **Treatment**

Conservation treatment on oversized paintings requires thorough planning, constant evaluation, and vital cooperation among conservators. The flats were moved in a carefully orchestrated production line, rotating the flats from their upright cleaning, to flat repair on moveable tables supported by plywood, to upright consolidation and retouching. The flats were numbered and sorted, positioned along a wall in the work area or the hallway to minimize repeated movement and to facilitate a successful workflow.

#### *Condition Reports*

The flats were transported to the warehouse that JANA Conservation uses occasionally for larger projects. The flats were unwrapped, sorted, selected, and photographed.<sup>7</sup> A 6 m by 9 m empty space was used for this purpose along with the adjacent hallway to the loading dock which had an alarm system and bolt locks.



**Figure 6.** Conservators Jennifer Cheney and Alison Douglas recording condition.

The condition of the *Butterfly Scenery Flats*, front and back, was recorded on oversized paper using a Mylar overlay that was colour coded with permanent markers to document treatment progression (**Figure 6**).

#### *Surface Cleaning of the Verso*

Cleaning of the verso, removal of the grimy polyester batting stapled to the strainer and the messy vacuuming and washing of the wood were carried out in the hallway. Dry, synthetic household sponges were used to lift the surface dirt on the verso and some water-dampened sponges removed the heavier soot on the wood only.

#### *Cleaning of the Recto*

The paint layer and ground were reactive to moisture and to solvents due to the high content of chalk and hygroscopic medium. Matte paint posed particular problems and restrictions. Moisture and solvents applied in an attempt to clean the paint layer created tide marks or removed paint and the result was neither consistent from colour to colour nor within the same colour on a flat. The ratio of pigment to chalk to glue was critical in the preparation stages, in the drying process, and later in the response of the paint to cleaning. Initial low glue content layers resulted in loose deposits of pigment and migration of chalk to the surface. Further, dehydration of the glue, fluctuations and high relative humidity intensified the problem. Any disturbance of the chalk layer would show immediately, rendering the paintings as tenuous as chalk or pastel drawings.

Dry cleaning was carried out using Absorene sponges. The high static charge of the sponges attracts the grime layer without mechanical action that can abrade the paint. Each sponge was cut in three sections to maximize the useable surface. Areas of fragility, particularly in the artists' gold sponging, were cleaned with document cleaning pads that are used in paper conservation for dry cleaning. The pads house the same static rubber as the Absorene but are encased in a soft cotton cover.

Dry cleaning was also carried out on the painted wood, on the metal surfaces, and on the edges. Again, the water-soluble ground layer restricted the treatment options. Vinyl erasers, kneadable erasers (Groomstick), and swabs slightly moistened with deionized water were effective in removing much of the grime, but were used sparingly and with a light touch.

#### *Consolidation*

The surfaces were not so fragile as to warrant consolidation before cleaning. As well, applying adhesive to a dry, lean paint film would pose the risk of drawing more of the overlying soot into the paint layers.

Mock-ups were prepared from newly painted samples using paint available in the theatre industry. Adhesives applied to these surfaces readily caused tidemarks as they penetrated the surface, or they left residual deposits that could not be removed. Most adhesives tested left a surface that was too glossy and unsatisfactory, so modifications had to be made.

The selection of consolidants to stabilize the matte paint depended on the type of damage that was to be treated. Cracking paint, where the fissure extended to the fabric and ground layer, required the adhesive to flow deeply and to evaporate quickly so as to leave little adhesive on the surface. Surface cracking and flaking was more successfully treated with low concentrations and repeated applications. Decision-making was further complicated by the many areas of repainting, as these imparted different properties to the paint.

Throughout treatment of the various panels, the concentration of consolidant or type of solvent was often modified to avoid darkening of the paint layer. Acryloid B-72, in varying concentrations of acetone, xylenes, or toluene, was one choice for deep cracks that had not been overpainted. More sensitive areas of flaking responded better to gelatin consolidants, as described below. In the hinged sections, areas with thick, heavy repainting were first relaxed and then impregnated with Rohatol B500 or BEVA 371 resin (original formula), after a chasing of their solvents; isopropanol and VM&P naphtha respectively. Water use was restricted in the metallic areas, due to the presence of corrosion products and the risk of reactivating corrosion. These variations in consolidation approaches were recorded on the condition report overlays.

#### *Mini-suction Consolidation*

Use of the mini-suction plate allowed a more uniform, non-staining application of the consolidant for cracking paint. This also allowed for the consolidation of the paint layers with the canvas still attached to the strainer members. The suction plate, based on a design used by Wendy Baker (Ottawa Conservation Studio), consisted of a sheet of Coroplast, fluted polypropylene sheeting with a window opening four by four inches cut in the upper layers only. The channels were left intact and supported a fine mesh screen, taped with duct tape. The ends of the channels were left open to allow airflow. A vacuum attachment was fixed





**Figure 7.** Coroplast Mini-suction plate inserted under the painting and attached to a vacuum pump to facilitate consolidation.

to the underside at the opposite end where a similar opening was cut (**Figure 7**). Narrow and flexible, the plate could be inserted behind any area of the painting. Low percentage gelatin solutions were brushed through tissue over the cracking areas while drawing low pressure from behind.<sup>8</sup> This method was particularly useful on the painted section at the base of the tracery, open-worked doors.

#### *Nebulizer Mister*

The proximity of air vents in the display area and the high percentage of particulate matter from carpets, person-traffic and also heavy black soot pollution from outside were concerns when considering the long-term preservation of the unvarnished, water sensitive paint layer. The Butterfly Flats will remain very difficult to clean and will continue to attract airborne contaminants. In anticipation of this, the lower section border, which was painted in lighter flat tones and black outlines on the flats and doors, was coated with a gentle mist of dilute adhesive that acts as a fixative. A fine mist of laboratory grade gelatin, 0.5% wt/vol, was applied using a nebulizer, in repeated applications, to coat the upper layers of the paint, without causing colour change, shrinkage, or delamination (**Figure 8**). The added strength in the paint layer may also facilitate future cleaning.

The nebulizer is the medicine reservoir for a vapour mask used by asthma patients, and is available from medical supply stores. One end is attached to a compressor and the other end to a hose and copper tube nozzle. The copper nozzle is made in-house from low-cost available materials, however, a plastic tapered tube such as that on the end of a squeeze bottle, would also be sufficient.

#### *Consolidation and Patching Seamed Hinge*

Each of the oversized flats consists of two separate panels. Hinges are fastened together beneath the canvas and are invisible on the recto. This creates a bulge and pucker in the cloth and paint layers. The deep cracks had been repaired several times in the



**Figure 8.** The nebulizer provides a fine mist of consolidant to the lower, more vulnerable areas of the flats, where the intake vent draws airborne grime to the lighter paint layer.

past, resulting in dark staining and a thick build-up of glue and overpaint. In this treatment, Acryloid B-72 was initially applied but the adhesive was not successful in relaxing the hardened paint and glue. Rohatol B500 and BEVA resin (original formula) applied alternately by brush as the paint dictated followed by a chasing of isopropanol or VM & P naphtha, successfully consolidated all of the thick, flaky layers of overpaint. There was no original paint here and in some areas the overpaint was removed, the area filled and then retouched.

On the reverse, in the linear section corresponding to the open separation of the wood that was accessible only when the flat was folded, narrow, frayed strips of Dacron (100% polyester fabric) were covered with a strip of BEVA film and heat set to the verso of the canvas. This added strength to the canvas folds.

#### *Filling and Inpainting*

Several filling materials were pre-tested for use on the flats, particularly at the folded seams. These included traditional rabbit skin glue/calcium carbonate gesso, rabbit skin glue modified with Rohatol B500, gelatin and chalk, Liquitex Acrylic Gesso, Tri-Art acrylic gesso and other proprietary brands. The fillers were laid out in films, allowed to dry, and then their fabric support was creased. Tri-Art acrylic gesso proved to be the most flexible for this purpose and when mixed with dry pigment was chosen for



**Figure 9.** Conservators Bonnie McLean, Jennifer Cheney and Janice Passafiume are shown consolidating and retouching the flats.

filling. The surface colour was adjusted with water-diluted Methocel and dry pigments. Methocel, a cellulose ether that combines a water-soluble methyl cellulose and hydroxypropyl methyl cellulose, provided a good inpainting medium for the gessoed fills because of its matte character and long term improvements over methyl cellulose.

For inpainting over the nails, the solvent-based UVS matte varnish (Regalrez with matting agent) mixed with powder pigment was used to prevent rusting that might have been induced by moisture from a water-based inpainting medium.

Cracked and discoloured areas of paint were toned with bright chalk pastels (**Figure 9**). Contrasting colours were applied in small dots or lines, according to the theory based on those of the Italian *tratteggio* technique for mural conservation, where the eye optically integrates the colours, but the reintegrated areas remain detectable. This technique of retouching compensates for varying light sources—in this case alternating between daylight, quartz halogen, and incandescent—and potential discrepancy upon ageing between the original paint layer and the retouching. This is invaluable when using inpainting medium that has the potential to change colour as it lengthens the period between natural ageing



**Figure 10.** Cami-lining canvas stapled to the wood framework on a completed door flat.

of the original versus natural ageing of the inpainting medium. Final inpainting of the folded seams was carried out *in situ* after installation.

### *Cami-Lining*

Lengths of unbleached cotton fabric were stretched under the cross-members behind the canvas and then stapled to the wood framework. This cami-lining method distributed the weight of the original canvas, preventing it from resting directly on the wood members (**Figure 10**).

### **Completed Flats**

All flats were protected on the verso with Coroplast backings and were held with two-holed brass mending plates that were manufactured in-house. Both archival tape, having a lower strength, and duct tape were used to fasten the sheets of Coroplast together. Thirteen of the best flats were selected for installation and the remaining five were cleaned, consolidated, photographed, wrapped and stored.

### **After Treatment**

After treatment photodocumentation was undertaken using Ektachrome 64 colour slides. Light source was quartz halogen. Transparencies in 2½ x 3 inch format were taken by a professional photographer, Robert Barnett, for use later in the production of a poster.

Recording of the materials and methods used in the treatment was updated on the condition report overlays and a summary was provided to the client. The flats were wrapped and transported to the Elgin and Winter Garden Theatres where they were threaded backstage, upright in an elevator, up ramps and stairs, through the theatre, and out to the lobby—a task of long and arduous labour undertaken by Abbeywood Movers.

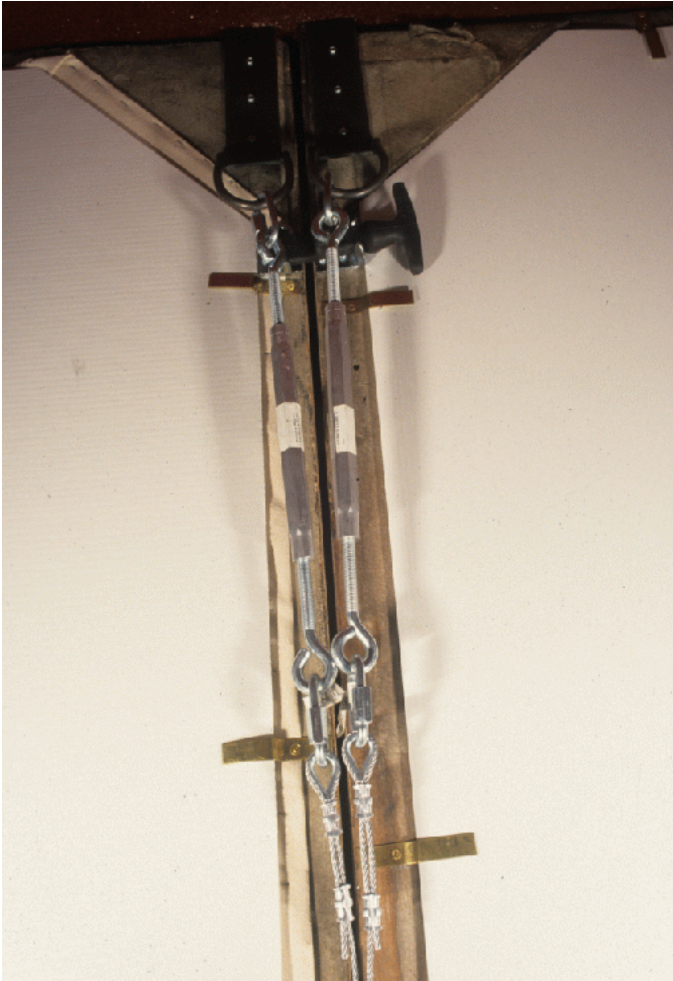
### **Installation**

Because of the intended location in an active theatre, the installation was staggered between theatre shows and last minute rescheduling of theatrical events. As a result the installation spanned two weekends.

#### *Installation of the Central Panels*

First, the three central panels were tied with ropes to a single, horizontal bar and were hoisted up to the ceiling and retied to the heavy iron bar that was already mounted on the ceiling. The flats were held with airline cables fastened to the strainer wood using long screws. The cables traveled the full length of each panel along the back sides, distributing the weight. The alignment was adjusted with tourniquets from the bottom when the panels were hanging, and slotted moveable blocks kept the flats next to one another (**Figures 11 and 12**). Counterweights were used to tie off the safety lines at every stage of the ascent (**Figure 13**).





**Figure 11.** Hanging hardware at the top verso and airline cable.

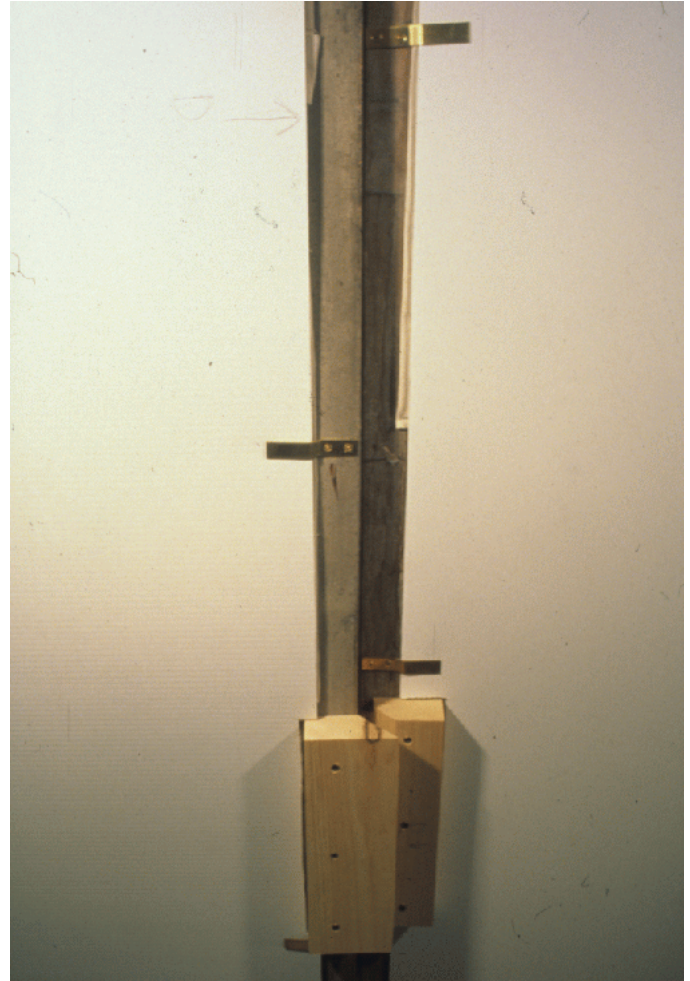
#### *Diagonal Panel Hanging Devices*

The door panels were suspended diagonally in the corners from the installed bars, painted to blend with the background. The door opening was fixed open with mending plates.

#### *Installation of Right and Left Corner Sections*

The scaffolding had to be rearranged in such a way as to enable working within the layout of the room and around the stairs, requiring protruding, counterbalanced attachments. The two side panels, consisting of one full-sized flat and one half-flat, were hinged on the floor with bendable plates and raised in their folded position (**Figure 14**). The side of the wider flat was mounted flush with the wall using two gravity bars, interlocking horizontal wooden lengths affixed to the verso of the flats and screwed to the wall. The narrow flat was rotated open to meet the door panel. These were fastened at the top and bottom at the verso using brass plates. The edges were protected with a narrow wooden trim, painted flat black.

Specialists in both theatre sets and museum preparations proved to be efficient and well organized for this complex installation. Matt Meagher, from Museumpros, provided



**Figure 12.** Linking blocks allowed for some movement but kept the flats together.

experience from both a museum installation and display manufacturing background. Brian Fowler, from Candlepower, specializes in both museum installations and theatre setting installations (**Figure 15**).



**Figure 13.** Raising of the three central flats during installation.





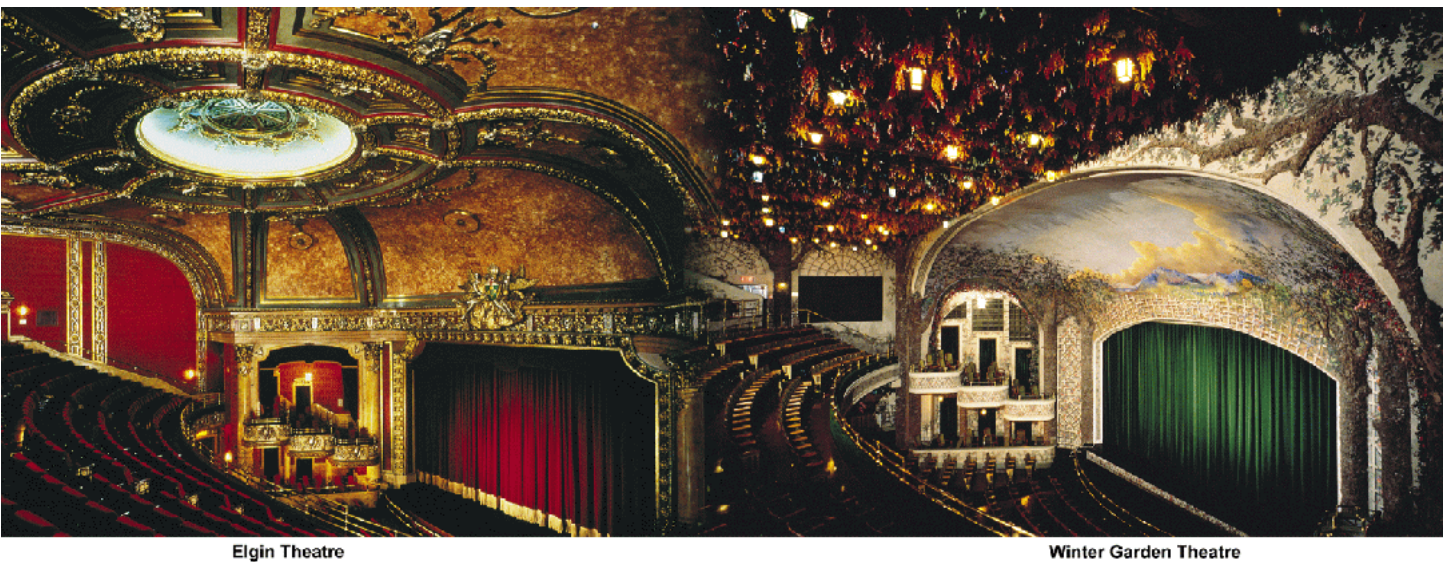
**Figure 14.** Raising the corner and side flats, folded and expanded in place.



**Figure 15.** Installation crew from Candlepower, JANA Conservation, and Museumpros.



**Figure 16.** The finished and installed *Butterfly Scenery Flats*.



**Elgin Theatre**

**Winter Garden Theatre**

**Figure 17.** Interior of Elgin and Winter Garden Theatres, Courtesy of Ontario Heritage Foundation.

## Environmental Concerns

Two of the quartz halogen ceiling lights in the theatre were located too close to the side panels and were, therefore, removed. Lower wattage bulbs and the continued use of a dimmer switch were recommended to reduce light exposure. The only natural light, from a double-door three levels down, was situated behind the flats. Incandescent pot lights are turned on only during performances. Engineers and architects for the building provided plans for heating, ventilation, and air flow patterns. It was suggested that the ceiling out-take be equipped with a manufactured vent intended to direct the airflow away from the surface of the flats. Recommendations were made to change the existing filters for the ventilation on a regular basis. To monitor temperature and relative humidity, data loggers provided by CCI have been installed in the center and sides along the total width of the panels, alternating top and bottom to record general overall conditions.<sup>9</sup>

## Conclusion: The Grand Finale

The installed *Butterfly Scenery* Flats can now be viewed at eye level from the balcony level in the Cascading Lobby of the Winter Garden Theatre (**Figure 16**).

Four didactic panels, in English and in French, have been mounted near the flats. The panels outline the history of the Elgin Theatre, as well as the prior condition and conservation treatment of the flats. A poster illustrating a section of the *Butterfly Scenery* Flats on a dramatic black background was designed by the marketing department of the OHF and printed by ICON Lithos.<sup>10</sup> The Elgin and Winter Garden Theatres are seen in **Figure 17**.

## Acknowledgements

JANA Conservation was delighted to work on this project and would like to thank all of the people involved for their assistance: Simonette Seon-Milette, Collections Project Co-ordinator, Ontario Heritage Foundation; Richard Mortimer, General Manager, Arnie Lappin Marketing and Communications Coordinator, Elgin and Winter Garden Theatres; Matt Meagher, Museumpros; Brian Fowler, Candlepower; Abbeywood Movers; ICON Lithos; Robert Barnett APO Photography; Gary Kee and Harry Punno, manufacturers of the storage box for the Satin Act Curtain—also a phase of this contract. Joyce Whiteford, textile conservator responsible for the stabilization of the curtain;<sup>11</sup> Conservators Alison Douglas, Jennifer Cheney, and Bonnie McLean; assistants Brian Barnes (lighting recommendations), Sam Antonacci, Clara Antonacci, Sam, Daniel, and Gian Luca Passafiume; and project organizer Rick Passafiume

## Materials

Absorene dry cleaning sponges 95-580: Carr McLean, 461 Horner Avenue, Toronto, Ontario M8W 4X2, 1-800-268-2123, website: [www.carrmclean.ca](http://www.carrmclean.ca).

Acryloid B-72 (methyl acrylate/ethyl methacrylate copolymer):

Guiding Supplies c/o Craig Johnston Restoration Ltd., 12-1541 Star Top Road, Ottawa, Ontario K1B 5P2, (613) 744-0945.

Barnstead deionizing water columns: Anachemia Science, 6535 Millcreek Drive, Unit # 65, Mississauga, Ontario L5N 2M2, 1-800-361-0209, website: [www.anachemia.com](http://www.anachemia.com).

BEVA 371 (ethylene vinyl acetate copolymer) paste and film (2.5 ml 82-083, 27 inches x 20 foot roll): Carr McLean or Conservator's Products, c/o Laszlo Cser Restorart, 23 Morrow Ave, Toronto, Ontario M6R 2H9, (416) 539-8069.

Brass mending plates, 2 or 4-hole, manufactured at: JANA Conservation, 19 Plumbstead Court, Toronto, Ontario M9A 1V4 tel. 1-416-239-0718, e-mail: [janacon@rogers.com](mailto:janacon@rogers.com).

Coroplast (fluted polyethylene board): local art supplier or sign maker.

Cotton yardage, sold on roll, 85 yards unbleached: Curry's Art Supply, 490 Young Street, Toronto, Ontario M4Y 1X5, 1-866-967-6666, website: [www.currys.com](http://www.currys.com).

Dacron 100% polyester fabric: Carr McLean.

Document cleaning pads 95-390 4 oz. Pad: Carr McLean.

Ektachrome 64 colour slides: local photographic supplier.

Fome-core (laminated polystyrene foam board): local art supplier.

Frame sealing tape 81-842 white 1 ¼ inch x 1000 feet: Carr McLean.

Gelatin, Laboratory Grade 275 Bloom: Fisher Scientific or Efton Science, 3350 Dufferin Street, North York, Ontario M6A 3A4, (416) 787-4581, website: [www.e-sci.com](http://www.e-sci.com).

Groomstick Molecular Trap 81-916 (for dry cleaning): Carr McLean.

Methocel cellulose ether (methylcellulose / hydroxypropyl methyl cellulose): Dow Chemicals, website: <http://www.dow.com/methocel/index.htm>.

Permanent markers "Sharpie" by Sanford: local office supply store.

Pressboard board for tables, 4 x 8' sheets: local building materials store.

Rohatol B500 (now available as Plextol B500) Aqueous dispersion of a thermoplastic acrylic resin: Carr McLean.

Sea Gel, premium grade 95-584: Carr McLean.

Silicone release Mylar, double coated available as "silicone



coated polyester film PSCF3" 1.5 ml 50 inches x 27 yards: Carr McLean.

Tri-Art acrylic gesso: local art supplier.

Unbleached cotton fabric: local fabric stores.

UVS Matte Varnish: Conservator's Products.

Vinyl erasers: local art supplier or office supply store.

## Notes and References

1. According to the Ontario Heritage Foundation (OHF) and uncontested, the Elgin & Winter Garden Theatres (EWG) is the "last operating double-decker theatre in the world" and holds the largest collection of scenery. Reference from Arnie Lappin "Fact Sheet" on the history of the EWG restorations.
2. Russell, Hilary, *Double Take: The History of the Elgin and Winter Garden Theatres* (Toronto: Ontario Heritage Foundation and Dundurn Press Ltd., 1989).
3. The underlayers were visible as drips along the wooden edges and in the voids at paint losses. These areas were easily tested for sensitivity to moisture and solvents. CCI also provided cross-sectional analysis.
4. Russell, Hilary, *Double Take: The History of the Elgin and Winter Garden Theatres* (Toronto: Ontario Heritage Foundation and Dundurn Press Ltd., 1989), p. 93.
5. If one examines the finished overall slide, omitted elements in the stenciling design can be detected and make for interesting conversation during the theatre tours.
6. Samples of "Iddings Deep Colors Scenic Paint (white 5551)" theatrical paints in distemper medium were available from Rosco, Islington Avenue, Etobicoke, Ontario.
7. Ektachrome 64 tungsten slides were selected for their good colour rendition and long-term preservation properties. Two upright and two floor model quartz halogen lights were positioned for even illumination. For the folded flats, the photographer, Rick Passafiume, climbed a 15 ft ladder, removed hanging ceiling tiles, and photographed from a great height.
8. Timing and the amount and concentration of the adhesive were critical—too much moisture took too long to dry and created tide lines, while too little left residue on the surface. The ideal result was achieved by allowing the adhesive to rest just below the upper layer in the paint/ghesso and gesso/canvas interfaces by adjusting evaporation, penetration and dispersion without leaving residual deposits. The technique is often used in paper conservation for 'chasing' stains off of the paper, removing adhesive residues or cleaning fragile watercolours.
9. Since the installation, the scenery has been examined and photographed annually for any changes. The data loggers have recorded readings for temperature and relative humidity that are within the acceptable range, according to Simonette Seon-Milette, Collections.
10. The poster can be purchased in any of the following ways: i) by accessing the OHF website ([www.heritagefdn.on.ca](http://www.heritagefdn.on.ca)) and sending an e-mail message to [marketing@heritagefdn.on.ca](mailto:marketing@heritagefdn.on.ca); ii) by sending a fax to 416-314-0744; iii) at the Elgin and Winter Garden Theatres Center Gift Shop during performances; or iv) at the Elgin and Winter Garden Theatres Center Box Office during the day. The cost of the poster is \$20.00 (plus \$5.95 shipping and handling, if applicable).
11. The Satin Act Curtain was hanging on the wall where the flats were to be installed. Phase I of the conservation contract included removal of the curtain from the wall, cleaning and stabilization, as well as long term storage on site in a crate. Joyce Whiteford was the conservator responsible for the treatment and storage decisions.