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PRODUCING THE DRUNKARD WITH WING AND DROP
DESIGN: CONSTRUCTION, PAINTING,
AND USE OF ROLL DROP SCENERY

BY

DESIDERIO ROYBAL

A thesis submitted in partial fulfillment
of the requirements for the degree
Master of Arts
Major in Speech
South Dakota State University

1988

PRODUCING THE DRUNKARD WITH WING AND DROP

DESIGN: CONSTRUCTION, PAINTING,

AND USE OF ROLL DROP SCENERY

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Arts, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Judith Zivanovic
Thesis Adviser

Date

Judith Zivanovic
Major Adviser

Date

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CHAPTER I

INTRODUCTION

Background of Study

Wing and Drop Settings were flourishing at the turn of the 19th century. No longer was the public satisfied with festivities that revolved around religious and ethnic patronage. "Commercial theatres needed no special occasions and no connections to other activities to justify their play, musicals, and skits" (Lipsitz 1987, 17). Going to the theatre meant integration of all ethnic groups involved in a social setting, "theatrical performances became commodities sold to strangers for an agreed upon price, rather than collective creations by communities enacting rituals to maintain solidarity and group identity" (Lipsitz 1987, 18).

Roll drop scenery, like all other scenery, was a component of preceding theatrical forms. Vitruvius Pollio of the first century A.D. instructed his followers in the nature of scenery, based on Aristotle's, The Poetics:

There are three kinds of scenes, one called the tragic, second, the comic, third, the satyric. Their decorations are different and unlike each other in scheme. Tragic scenes are delineated with columns, pediments, statues, and other objects suited to

kings; comic scenes exhibit private dwellings, with balconies and views representing rows of windows, after the manner of ordinary dwellings; satyric scenes are decorated with trees, caverns, mountains, and other rustic objects delineated in landscape style (Rathgeb 1986, 38).

Leon Battista Alberti's De re aedificatoria and Sebastiano Serlio's Regole generali di Achitectura (1545) were two Italian Renaissance architects who took Vitruvius' manuscript and applied it to Renaissance problems. Sebastiano Serlio took Aristotle's and Vitruvius' ideas and incorporated them into a working philosophy for the theatre. "While each of the three settings was composed of realistic materials, either architectural or natural, there was no attempt at a realistic depiction of place but instead an attempt to create an archetypal or generic setting to contain each of the three types of action, comic, tragic, and satyr." (Rothgeb 1986, 39).

Serlio's treatise was adhered to until 1693 when Andrea Pozzo in his De Perspectiva Pictorum et Architectorum illustrated an expansion of settings. His settings included a courtyard, workshop, gallery, antechamber, temple, and coliseum. Baldassarre Orsini's Le scene del nuovo Teatro del Verzaro di Perugia (1785) contained illustrations depicting a royal chamber, salon, gallery, royal hall, magnificent palace, temple, street, courtyard, dungeon, villa, piazza, and harbor. "He gave

sophisticated instructions for the painting of the scenes but pointed out unmistakably that, since scenes formed backgrounds for dramatic action, their coloring and decor should be generally 'delicate and mild' in order not to compete with the visual impression of the actors"

(Rothgeb 1986, 41). Pozzo and Orsini were two theatre architects who initiated the philosophy that the work of the scenic artist was an integral part of the total theatre experience.

These "stock" settings initiated in the 1600s were the forerunners to the "drops" that traveled the Midwest. "The railroad, which connected all the established communities into a large transportation network, facilitated this expansion [of touring theatre] by making entertainment accessible to any and all of the opera houses in towns large and small" (Brockman 1987, 83). The presence of an opera house in a new community meant civility. If a community was to survive it had to attract individuals who would homestead and generate revenue to grow. The scenery was sold to communities with opera houses or to traveling troupes that performed on a "circuit." "In order to feature and sell the scenery, salesmen took with them a scale-model stage with miniature lines to lower and raise the sketches" (Brockman 1987, 88). Scenery was important to an opera

house. With scenery, a community could advertise for traveling troupes. McCabe's Minstrel Company advertised in the paper as having "special scenery, calcium lights, elegant costumes and appropriate properties" (Dell Rapids Tribune 1896).

This brief history of scenic art was a background for a study of painting styles and their implementation to the musical revival, The Drunkard or Down With Demon Drink.

In addition to the inspiration of this fascinating history, the investigator's interest in scenic design and color theory have led him towards a study of this wing and drop scenery. Too often stage scenery is built dimensionally, rather than painted onto a drop. Romanticism of stage scenery is very often lost to "realism." The investigator came to believe that learning the painting techniques and theories of past painters was a necessity for building towards the future through the wisdom of the past.

Available published research on 19th century scene painting was minimal; thus, the investigator hoped that the information gained through a study of this scenery would benefit those who wish to learn from an exciting era in theatre history. He further hoped that

this study would advance his aspirations of becoming a versatile, contributing scenic designer for the stage.

Statement of the Problem

The purpose of this study was to examine 19th century wing and border painting styles and their implementation in the design of The Drunkard or Down with Demon Drink. The play will be referred to as The Drunkard. This play was produced at Doner Auditorium, Brookings, South Dakota, on July 6, 9, and 10, 1988 and at the Prairie Village Opera House, Madison, South Dakota, on July 16, 17, 21, and 22, 1988. Through personal interviews and hands-on training, research was compiled to formulate background information and painting techniques for the seven settings required for production.

Justification of the Study

A brief study of available material indicated that there had been no text written concerning roll drop scenery, although there are texts on painting techniques, pigments, and binders. Roll drop scenery was part of a valuable form of entertainment but there is little documented evidence. Many opera houses that once used roll drops have been abandoned or demolished to make way

for progress and numerous artifacts for study have been lost with them.

It is hoped that this study will inspire others to research and learn the painting techniques that were so valuable to a scenic artist. A study of this nature may also supply the information needed for some communities to use multiple roll drop scenery.

Since no previous study has been conducted concerning roll drop scenery, the information in this study will be a valuable asset to any individual who wishes to attempt such a fascinating art form. Finally, it is hoped that this study will spark interest in individuals who, like the investigator, mistakenly thought the painting style was too involved to produce successfully on a large scale.

Procedures

The following procedures were completed to gain the necessary research and techniques to stage The Drunkard successfully and to accomplish this study.

The following guides were surveyed to determine if any studies had been undertaken regarding 19th century wing and border painting styles and their implementation in a period drama:

Art Bibliographies ModernArt Literature InternationalAmerican History and Life

The following key words were utilized in the search:

roll drop, soft scenery, wing and border, vistas, scene painting, troupers, painting styles, olio drop, add drop, scenic art, melodrama, vaudeville, variety shows, theatrical painting, temperance drama, stage decoration, backdrop.

The survey of the above guides revealed no duplicate studies. A few general studies concerning 19th century theatre were located but none of these contained information concerning construction, painting, or specific usage of drops. Useful texts for general guidance in this construction and painting of scenery were discovered. These include:

Fier, John L. and Gilbert Hutchins. Advanced Woodwork and Furniture Making. Illinois: Bennett Co., Inc., 1972.

Wolfe, Welbe B. Materials of the Scene. New York: Harper and Row, 1987.

Mayer, Ralf. The Artist Handbook of Materials and Techniques. New York: Viking Press, 1970.

Pecktal, Lynn. Designing and Painting for the Theatre. New York: Holt, Rinehart and Winston, 1975.

Veaner, Daniel. Scene Painting. New Jersey: Prentice Hall, 1984.

Popular Entertainment 1895-1929, The Twin City Scenic Collection. Minnesota: University of Minnesota Press, 1987.

Burriss-Meyer, Harold and Edward E. Cole. Scenery for the Theatre. Little, Brown and Company, 1971.

Ashworth, Bradford. Notes on Scene Painting. Conn.: Whitlock's Inc., 1952.

Pope, Arthur. The Language of Drawing and Painting. Harvard University Press, 1949.

Since minimal printed material existed regarding the principles and practices behind scenic painting of roll drops, the following procedure for research was established:

1. To gain a better understanding of the philosophy, style, and use of roll drop scenery, the investigator attended The National Society for the Preservation of Tent, Folk, and Repertoire Theatre Conference to study the collection of wing and drop scenery. While at the conference the investigator also interviewed former touring actors who had used this type of scenery. Interview questions were established prior to the conference (See Chapter II). Scenery was photographed and background information gathered from an

interview with Joseph Mauck, Assistant Curator of the collection.

2. The investigator studied and photographed the painting techniques of Dr. C. Lance Brockman, Professor of Theatre Arts, University of Minnesota, and Janet Ryger, Scenic Artist in Residence, University of Minnesota. The investigator worked with Dr. Brockman on two separate occasions studying his painting techniques on his work-in-progress. Dr. Brockman is probably the foremost U.S. authority on this art form. Dr. Brockman gave the investigator a brief presentation of the extensive collection of original watercolor renderings that were the property of the Twin City Scenic Company. The types of pigment, binder, painting techniques and their application to soft scenery were recorded.

3. Conclusions from the above research were used in the design, construction, and production usage of wing and drop scenery for The Drunkard. The following was accomplished:

- a. Duplication of six drops
- b. Design and painting of an additional drop
- c. Building of the cylinders that were used to raise and lower the drops in production
- d. Installing appropriate rigging in the Prairie Village Opera House.

Limitations of this particular study will concentrate on painting styles and their application. Historical information concerning past troupe circuits was kept to a minimum.

In order to understand fully the terms associated with period painting, the following definitions will be of value:

flat--wooden frames over which muslin has been stretched

wing and drop--type of stage scenery by which wing refers to the standing flats that flank the drop

roll drop scenery or drops--scenery that is soft and rolled on cylinders

circuit--the regional area covered by a theatre tour, from the city of origin to return to that city

binder--refers to any type of adhesive

fly--a term used to define the area above the stage; scenery that leaves the stage by raising out of view; synonym for "drop"

rigging--reference to any work being done with "fly;" fly hanging.

The study is organized in the following areas:

Chapter II discusses the interviews with touring theatre actors who worked with wing and drop scenery.

Chapter III examines the selection of drops identified from existing artifacts from the Theatre Museum, Mt. Pleasant, Iowa; designs of two drops based on photocopies from Charles A. Steward and Company; and original designs submitted by the investigator. Work drawings were supplied for stage scenery and rollers used in raising and lowering scenery.

Chapter IV outlines the materials needed and their use in the construction and painting of the scenery. Emphasis of this chapter is on painting techniques used in The Drunkard. Color plates document the written descriptions.

Chapter V describes the transporting and rigging of drops in a fully rigged auditorium as well as the installation in an opera house without any established rigging.

Chapter VI presents the views of designer/investigator and the director of the production concerning the efficacy of the soft scenery for The Drunkard.

Chapter VII summarizes the study and draws conclusions, both for further study and related to the specific results of the study at hand. These conclusions reflect the desire of the investigator to continue his work with such scenery and to encourage others to do so.

Establishing Interview Questions

CHAPTER II

ESTABLISHING BACKGROUND INFORMATION

The lack of printed matter concerning roll drop scenery led the investigator to other sources of information. Dr. C. Lance Brockman, a leading expert in roll drop scenery, was a valuable source. Dr. Brockman's knowledge will be applied in Chapter IV. Another source was personal interviews with individuals who used this type of scenery. Research was conducted at a conference for academicians and retired professional actors and troupers scheduled in Mt. Pleasant, Iowa.

To establish the principles and practices behind the use of scenic painting of roll drops, this writer interviewed retired troupers attending The National Society for the Preservation of Tent, Folk, and Repertoire Theatre Conference. The conference was held in Mt. Pleasant, Iowa, on April 8-10, 1988 in the Theatre Museum on the Old Threshers grounds. At this conference, troupers were interviewed and actual period drops were identified. (See Chapter III.)

While at the conference, the investigator searched for individuals who had a broad knowledge of trouping experience. Interviews were then conducted with

Establishing Interview Questions

Interview questions were prepared by the investigator and C. E. Denton, Associate Director of Theatre at South Dakota State University, and approved by Judith Zivanovic, thesis advisor, in a conference on April 7, 1988.

The questions were established to cover varied aspects regarding construction, use, and maintenance of roll drop scenery. Information gained from the interviews was then compiled and used as a reference for the design and construction of scenery for the production, The Drunkard.

Panel of Experts

It was established that the experts must have been former troupers with information regarding roll drop scenery. Mr. Jigg's Hollingsworth, a trouper who might have had knowledge of roll drop scenery, could not be at the conference because of illness. Mrs. Schuller-Hendersen correctly stated the situation, "The questions you are asking are too late, most of the people who know anything are dead. Trouping died in the early 1930s, that is legitimate trouping" (Schuller-Hendersen 1988).

While at the conference, the investigator searched for individuals who had a broad knowledge of trouping experience. Interviews were then conducted with

three individuals: Mrs. Caroline Schaffner, Mrs. Billie Schuller-Hendersen, and Mr. R. Norton Walther.

Mrs. Schaffner, curator of the National Society for the Preservation of Tent, Folk, and Repertoire Theatre Museum, Mt. Pleasant, Iowa, and former trouper with the Neil and Caroline Schaffner Players, was interviewed because she was the oldest participant at the conference. At eighty-seven, she was one of the few troupers who had first-hand knowledge concerning roll drop scenery.

Mrs. Schuller-Hendersen, a former trouper with the Lou Hendersen Players, was the second expert interviewed. Mrs. Schuller-Hendersen, presently compiling research on her father's troupe, had much information concerning troupers and trouper's scenery.

Mr. Walther, as a former trouper with the Kennedy Sisters, also had experience with aspects of roll drop scenery. He was at the conference to hear lectures on an art form with which he was once involved.

Background of Experts

The Neil and Caroline Schaffner Players owned roll drop scenery for their touring company that included Caroline, husband Neil, and a core of troupers. The Neil and Caroline Schaffner Players premiered at the Strand Theatre, Fort Dodge, Iowa, in October 1925. Their

trouper performed in repertoire October through Christmas playing two "bills" a week (Schaffner 1988). The months of January through April were spent hiring troupers and learning scripts for their summer tent show. The Schaffner's tent show performed for sixteen weeks beginning May 1 and closing September 30. The company performed in large tents outdoors because the opera houses were too hot during the summer months. The Schaffners continued in this repertoire form until 1936 (Schaffner 1988).

Billie Schuller-Hendersen's father, Lou Hendersen, did not use roll drop scenery for their touring company, but witnessed much use of it. The troupe included Lou, his wife, eight children, and troupers. According to Mrs. Schuller-Hendersen, "we used the soft drops, flys, you pulled it out, hung it up" (Schuller-Hendersen 1988). The Lou Hendersen Players performed in some opera houses but were primarily tent performers who excelled in vaudeville. Mrs. Schuller-Hendersen recalls some of the duties of a trouper:

My father, Lou Hendersen, made the flats, he painted the scenery, he did everything. He set up the tent, laid out the lot, built the props, taught the children, he did the acts, he worked-in new plays. I didn't know it at the time but he was very unusual, very versatile, he was as much an inventor as a performer. He wasn't the only one with these talents. Troupers had to do it all or risk unemployment (Schuller-Hendersen 1988).

Mrs. Schuller-Hendersen's home was wherever the opera house or tent she performed in was located. "I still get butterflies in my stomach every spring because that is when we began our tour" (Schuller-Hendersen 1988).

According to Mr. R. Norton Walther, "The Kennedy Sisters Show, owned by my father, toured through Oklahoma, Texas, New Mexico, Kansas, and states south of the Mason-Dixon line" (Walther 1988). Mr. Walther grew up while on the road. He had his first speaking part when he was five and continued to perform until he was eighteen when he enlisted in the army, where he remained for twenty-eight years. It should be noted that The Kennedy Sisters Show did not perform in opera houses. According to Mr. Walther, "the majority of troupers from the east coast and from the northern states performed in opera houses. Tent shows were primarily southern states entertainment" (Walther 1988).

Interview With the Experts

Mrs. Schaffner, born 1901; Mrs. Schuller-Hendersen, born 1925; and Mr. R. Norton Walther, born 1915; were able to recall many aspects of roll drop scenery.

Who toured with the show?

According to Mrs. Schaffner, "Established professional troupers were all that was necessary because the scenery was in-house scenery" (Schaffner 1988). Mr. Walther countered, "Everyone in the company toured. My dad was the manager and where he went so did his family and hired troupers" (Walther 1988). Mrs. Schuller-Hendersen also agreed that everyone in the company toured.

What toured with the show?

The Neil and Caroline Schaffner Show had their own roll drop scenery. Mrs. Schaffner explains:

Our scenery, costumes, and props traveled by train. It took two baggage cars to transport our show. . . . Stage properties were always kept to a minimum. An actor or actress always wanted center stage. You must keep in mind that show business of that time had its emphasis on the script and how it was performed (Schaffner 1988).

Mr. Walther recalled, "Everything that was necessary toured. Our home was where the show was performing that night" (Walther 1988). Mrs. Schuller-Hendersen added, "What didn't travel with us, dad made. He was incredible. We did 'bits' between acts that dad would write or borrow. If we needed props, dad always had the materials to build it" (Schuller-Hendersen 1988).

Who repaired the drops?

Mrs. Schaffner stated, "If the opera house was well established, they [proprietors] would have a resident scenic artist. The not-so-well-established houses would hire itinerant artists when needed" (Schaffner 1988). However, Mr. Walther recalled, "Someone in the company repaired the drop. If it was a major repair, the job was hired out. We played small towns, so usually there was never anyone more skilled than a trouper" (Walther 1988). Mrs. Schuller-Hendersen agreed,

My dad repaired our drops. He was an accomplished painter. He even water-proofed our "sixty with two thirties and a dramatic end" using paraffin and gasoline. The gasoline was boiled, paraffin was added and it was sprinkled on the tent. The gasoline evaporated leaving the tent water-proofed (Schuller-Hendersen 1988).

Who painted the drops?

Mrs. Schaffner had little information regarding this topic but stated,

Drops were painted in the larger cities. They were made to order. Scene painters painted the drops in these scenic houses. Jesse Cox, a native Iowan, was such a painter. Some were painted by itinerant artists (Schaffner 1988).

Mr. Walther commented on the scenic houses,

In the early days when "business" was good, the scenic houses in Chicago or Minneapolis would paint the scenery. In the later years, after 1929, whoever could paint, did. Every town had a sign painter; sometimes that's all you had (Walther 1988).

Mrs. Schuller-Hendersen had a different perspective, "My father was an artist. He painted beautiful drops. He even had a 'bit' where he painted an oil painting during the show, gave it or sold it to an audience member" (Schuller-Hendersen 1988).

Were there any gradual changes made in the drops?

According to Mrs. Schaffner, "The use of a mineral dye called diamond dye by scenic artist Jesse Cox revolutionized scene painting" (Schaffner 1988). Painting with diamond dye was a technique that enabled folk and tent troupes to travel with drops that would not crack, fold or wrinkle because the fabric was dyed not painted. Popular entertainment in the north used roll drops so had no need for such an innovation. Mr. Walther recalled that "In the early days, prior to 1929, all scenery was roll drops. After 1929 the use of theatre flats and folded drops was wide spread" (Walther 1988). Mrs. Schuller-Hendersen added, "change happened when necessary. Troupers had to be versatile if they wanted to stay in the business" (Schuller-Hendersen 1988).

What painting techniques were incorporated?

Mrs. Schaffner, Mrs. Schuller-Hendersen, and Mr. Walther had no information regarding this question. Troupers were collectively talented, each member contributed to an area of expertise. All three individuals were primarily actors and such a specific technical question was unanswerable.

What constituted a good selection of drops?

Mr. Walther and Mrs. Schuller-Hendersen concurred with Mrs. Schaffner's opinion, "front room, back room, timber and town" (Schaffner 1988). Mrs. Schaffner went on to explain, "Opera houses could have more than four, but these are the basic drops needed for troupers" (Schaffner 1988). A "front room" refers to an elaborate drawing room of the moderately wealthy. The drop usually contained a center doorway (usually non-functional). A "back room" drop was used to represent the unfortunate poor living in a garret or tenement. A "timber" drop also referred to as woods or leafy lane was used to accommodate any scene that could not be played in front of the other drops. A "town" drop depicted a city street.

What would troupers do if an opera house had more or less than the four stock drops?

Shows were always booked in advance. If an opera house had more or less than the four stock drops the booking agent had two options. The first choice was to rewrite parts of the show to fit into the surplus drops or fit into the shortage of drops. The second choice was not to book that opera house (Schaffner 1988).

Not booking a facility rarely happened. According to Schaffner, "Acting was a business, if you couldn't perform they [opera houses] would find a replacement and an actor would risk unemployment" (Schaffner 1988).

Did the opera houses or troupers own the drops?

Mrs. Schaffner stated,

Both, some troupes owned their scenery, as we did, others relied on "house scenery." Sometimes a town did not have an opera house. Some had only lodge halls. Actors performed in many places other than an opera house. We had to work and would rarely decline an offer. Only the well established could refuse bookings and that was true only in the early days. Some troupes, like my husband's, traveled with their own scenery (Schaffner 1988).

The Lou Hendersen Players and The Kennedy Players did not use the traditional front room, back room, timber, and town drops. The scenery they used was primarily flats, with scenes painted on them. Mrs. Schuller-Hendersen explained, "We owned our scenery. We traveled with everything except furniture. The furniture came from the community we were performing in" (Schuller-Hendersen

1988). Mr. Walther agreed, "We had our own scenery, mostly flats, some drops" (Walther 1988).

What was the reason for the decline in interest in roll drop settings?

Mrs. Schaffner gave her opinion, "The main reason was the development of talking motion pictures. Opera houses were converted into movie houses" (Schaffner 1988). Mrs. Schaffner cited another reason for the decline, "There was big money in Hollywood and like any job, you go where the money is" (Schaffner 1988). Mrs. Schuller-Hendersen agreed,

Times changed, audiences were interested in the talking pictures. We went into our specialty acts in the 1940s because business was bad. Some waited for better times and they never arrived. My dad had offers in Hollywood because they needed acrobatics but he didn't go because he had everything. The family was together, he ran his own business, he owned his own tent, it was perfect. We survived because we had specialty acts. Those who relied on acting simply faded away. There was no market for repertoire (Schuller-Hendersen 1988).

Mr. Walther added,

Roll drop scenery was dying in the early 1930s. Vaudeville replaced many of the acting troupers. Opera houses were transformed into movie houses. Actors knew the "circuits" were dying, so they all bailed out. Some found new jobs, some joined circuses, others moved to Hollywood to try and be in motion pictures (Walther 1988).

What type of stage lighting was used?

Mrs. Schaffner recalled theatrical lighting in her early years:

Gas lighting was used. Gas lamps ran across the front of the stage. The brightness was controlled by the pressure behind the gas flow. I believe that the use of gaslight also helped bring about the end of roll drop scenery. There were many fires because of the gas. Sometimes there could be a small gas leak and the accumulation of gas would collect and explode when sparked (Schaffner 1988).

Mrs. Schuller-Hendersen and Mr. Walther knew of gas lighting but were not able to answer the question first hand because they were primarily tent troupers. Mrs. Schuller-Hendersen, a former tent trouper, recalls their lighting:

We used electric light from the city we were in. We had foot lights, and spot lights run by our own generator. By the time I was around gas lights were ancient history (Schuller-Hendersen 1988).

Summary

The shortage of printed material led the investigator to other sources of information. Touring company actors were interviewed at the National Society for the Preservation of Tent, Folk and Repertoire Theatre Conference in Mt. Pleasant, Iowa on April 8, 9, and 10, 1988.

Ten interview questions were devised to discover information about the creation, maintenance and use of

roll drop scenery. These questions were asked of three touring professionals, Mrs. Caroline Schaffner, Mrs. Billie Schuller-Hendersen, and Mr. R. Norton Walther, who performed during the years from 1925 to 1960 and have forty-five years of theatre tours among them. With the advent of the motion picture and the conversion of opera houses to movie houses, true trouping was dead by 1940.

From these theatre professionals it was discovered that troupers were exceptional individuals with talents ranging from actor to acrobat and artist to inventor. Troupers were prepared for all hardships they might encounter. In response to a question about coping with unsatisfactory scenery, Mrs. Schaffner said, "Acting was a business, if you couldn't perform they [opera houses] would find a replacement and an actor would risk unemployment" (Schaffner 1988). The major change in drops cited was in reference to Jesse Cox's diamond dye technique. His technique was of little value to the opera houses of the North which used painted roll drop scenery. A good selection of drops in an opera house was at least the primary four: front room, back room, timber, and town. If an opera house had more or less drops the troupers adapted the script. It appears that most opera houses had "in-house scenery," but based on Mrs. Schaffner's testimony it was learned some troupes

had their own scenery. All three individuals agreed that soft scenery was painted with inexpensive paints and brushes.

The information gained in this chapter did not fully answer all questions but a background of information was learned. The three individuals were involved in a business, show business, that required hard work and the perseverance to endure hardships. It could be concluded that a trouper's family was anyone who toured or trouped with the show. The necessary items for trouping were everything that a prospective community could not supply. When scenery was damaged or new scenery needed to be painted the most qualified individual was hired. "In the early days when business was good, the scenic houses in Chicago or Minneapolis would paint the scenery" (Walther 1988).

All three individuals cited the talking motion pictures as a major factor in the declining interest of roll drop scenery. Another possible reason for the decline could be the transition from gas lamps which were used for light and heat to electric which only supplied light. The ideas presented by these three professionals can be used to examine the problems of the modern designer as he or she attempts to work with this type of scenery.

CHAPTER III

DESIGN ASPECTS OF THE DRUNKARD

Identification of Drops

The investigator, while attending The National Society for the Preservation of Tent, Folk and Repertoire Theatre, photographed twenty-five drops located in the museum where the conference was held. Four of the drops from the museum were used as designs for The Drunkard. They were: the front curtain, the woods, the street, and the front door fancy. The wing flats in the production were replicas of a set of wing flats at the Theatre Museum, Mt. Pleasant, Iowa. (The photographed drops and prosceniums are shown in Appendix A.)

Because the Theatre Museum in Mt. Pleasant did not have drops to serve as backgrounds for the garret, saloon, and cottage, other possibilities were approached. Assistant Professor Raymond Peterson, designer for State University Theatre at South Dakota State University, suggested looking through catalogues that rent soft scenery. Two drops were found in a catalogue from Charles H. Stewart and Company, Somerville, Massachusetts. The black and white printed

drops would be used as a foundation for the saloon and garret scenes. Both drops needed alterations but had the necessary elements. The catalogue did not contain a drop appropriate for the cottage scene. The catalogue showed interior rooms but they did not fit the requirements needed for the scene. In addition to the cottage drop, the investigator designed the proscenium borders and the exterior of the cottage flat. (Designs are shown in Appendix A.)

It was the intention of the investigator, as a designer, to duplicate the drops in a manner as true to the originals as possible. Most drops painted by scenic houses were copies of original works. The colored photographs and black and white photocopies were the original works that the investigator would use. A theatrical design is usually an original creation but in this situation the investigator must agree with Burris-Meyer and Cole:

Because theatrical production is an art, or at the least partakes of the artistic spirit, and the scene designer is an artist, he is not the least interested in designing scenery which copies, imitates, or even suggests the work of any other designer, except when his assignment calls for designing "in the style" of a certain painter or an ancient theatre designer . . . (Burris-Meyer and Cole 1971, p. 33).

Requirements of Script and Stages

Several versions of The Drunkard have been written and performed. With each version characters, dialogue and location of the play have differed. The script, set in London, was chosen for its character and dialogue development. The London location was in direct conflict with the drops chosen. The four original drops from Mt. Pleasant, Iowa were Midwestern scenes.

In a telephone conversation with director C. E. Denton, possible solutions were discussed. Choosing new drops was given consideration. Excluding the street drop, there were drops in the Theatre Museum at Mt. Pleasant that had possibilities. The second solution was to change any reference to London to a Midwestern urban city. Denver was considered because it contained the same amount of syllables as London. The investigator and director agreed that the best solution was simply to change the location of the play to Denver. The cottage originally in Hertfordshire was changed to Elm Creek.

The Drunkard was to be performed on two different stages: Doner Auditorium at South Dakota State University, Brookings, South Dakota and the Prairie Village Opera House at Madison, South Dakota. The width of the Doner Auditorium was four feet less than the Opera House. The depth of Doner Auditorium was three feet

greater than the Opera House. The problem of width and depth was inconsequential compared to the lack of "wing and fly" space. The Opera House had backstage space but no wing space, whereas Doner Auditorium had wing space but no backstage space. This problem was solved by simply changing the manner in which stage properties left the stage. Those items that were taken off into the wings in Doner Auditorium were taken off backstage in the Opera House. In the Opera House, the drop being used was raised when the front curtain was rolled down. The scene change could now begin and items were moved backstage.

The lack of fly space in the Opera House proved to be a major obstacle, and will be addressed in Chapter V. The borders used necessitated a slope on the outer perimeter because the Opera House ceiling had a slope. The borders followed the ceiling line. A slope of twenty degrees was necessary for a form fit. Because the borders were hung in front of the Act Curtain in Doner Auditorium, no changes were necessary.

The Ground Plan

The production's ground plan was designed with emphasis on entrances for actors and masking for the drops. The front curtain, also referred to as an act curtain, was plotted four feet from the stage front. The curtain, placed downstage of all scenery, allowed ample

time for scene shifts. As the scene would conclude, action was pulled downstage of the front curtain. The front curtain would roll down and the scene shift was begun. The front curtain was also used as a background for intermission entertainment. (See Appendix B.)

This front curtain was chosen for several reasons. The framed landscape contained topical geography that paralleled rural South Dakota. The area around the painting, called a surround, had swag ropes that gave the illusion of depth and dimension. The original drop, donated by the Blakesburg, Iowa community to the Mt. Pleasant Museum, had the necessary elements but lacked richness of color. The dullness of the drop, like many drops, was because of neglect and poor storage conditions before being sent to the museum. The water spots in the sky and surround were evidence of poor management. Despite its condition, it was the drop that would be used as the model for the investigator's design. (See Appendix A.)

The next drop on stage, in succession, was the garret. The interior drop, taken from the Charles H. Stewart and Company Catalogue, would establish the proper mood with some alterations. The garret drop required more stage depth than allotted but compromises had to be made for the unity of the production. The completed,

reproduced drop was thirteen feet wide by thirteen feet high. The garret, designed small in relation to stage width and depth, required two flats to mask the ropes used to raise and lower the drop but established the illusion of oppression and confinement. The eighteen-inch wide by twelve-feet high flats were placed on the sides of the drop. Because of insufficient width in the drop, the street drop was also used as a background for the scene. The scene called for few stage properties: a small table, chair, and bed. (See Appendix B.)

The third drop moving upstage was the street drop. This drop was the only one of four from Mt. Pleasant's Theatre Museum that had been produced by a scenic house which had been identified. According to Joe Mauck, Assistant Curator of the Theatre Museum, "the drop was painted by Kansas City Scenic Company. All designs were property of the scenic houses, so it is difficult to know who designed and/or painted the drops" (Mauck, 1988). There were several street drops in the museum's collection. The street drop used was chosen for its Midwestern appearance, excellent condition and depth of perspective. Scenes for which the drop was used required only a park bench as stage properties. The scene rarely had more than three actors on stage, thus no additional stage space was required. (See Appendix B.)

The cottage or backroom drop, designed by the investigator, was the fifth drop in succession. There was a backroom drop at the Theatre Museum but it did not have the humble charm and simplicity judged necessary for this play and scene. The stage properties included a table and chair, and a rocking chair. (See Appendix B.)

The saloon drop, a reproduction of a Charles H. Stewart and Company drop, illustrated strong perspective. The overhung ceiling in the sketch reinforced the perspective. The finished drop was hung six feet from the front curtain. The drop needed enough room between it and the front curtain for a two-by-eight-foot bar, bar stool, two tables, two benches, and four small stools. The drop's strong perspective helped eliminate the congestion of so many stage properties in a six-by-twenty-foot acting space. (See Appendix B.)

Miss Spindle's house, the sixth drop, was a perfect example of a front room drop. The drop, with stylized formality, depicted a parlor setting, was placed upstage to help establish depth. The drop was chosen for the frivolous decor depicted in the wall hangings and its strong symmetry. The scene required a center table with two chairs and two side chairs for stage properties. (See Appendix B.)

The last drop, originally from Beaman, Iowa, was a leafy lane. This drop was placed extreme upstage because a large number of actors needed to be on stage. The drop provided backgrounds for two scenes. The first required a tall bush and tree stump and the second required the addition of the exterior cottage flat. This drop was known as a woods drop, one of the four stock drops. (See Appendix B.)

Work Drawings

The following seven items were drafted by the investigator for construction in the scene shop. The working drawings contained sufficient views of three dimensional objects. The flat objects were drawn and laid out for assembling. Most drafting represents the front view but because of necessary joining instructions the rear view was shown.

1. Bar for the saloon
2. Bush for the woods drop
3. Cottage flat
4. Rollers for the drops
5. Proscenium wing flat
6. Proscenium border flat
7. Masking flats for the garret.

Bar for Saloon

The collapsible bar for the saloon was designed with quick changes and transportability as important factors. All sides of the bar were hinged and the fitted top kept it square. The bar was constructed with 1-by-4-in. white pine, 1/4 in. plywood, 7/8 in. staples, Elmer's wood glue, 1/8 in. Masonite, no. 6 box nails, muslin, and 3 in. butt hinge. The bar utilized common flat construction. (See Appendix C.)

Bush for Leafy Lane

The bush for leafy lane, designed to hide actors during the scene, was cut from 3/4 in. plywood in an irregular pattern. Wood glue was spread over the frame and muslin was attached. A stage jack was added for supporting the unit. (See Appendix C.)

Exterior of Cottage

The exterior of a cottage was necessary for Act I, Scene 5 and Act III, Scene 5 of the production. The cottage was a two-dimensional cutout constructed like a theatre flat. The materials used were 1-by-4-in. white pine, 1/4 in. plywood, 7/8 in. staples, wood glue, 3/4 in. plywood, and muslin. A stage jack was added to this unit also. (See Appendix C.)

Depletion of Rollers for the Drops the last century
has left While attending the conference in Mt. Pleasant,
Iowa, photographs were taken of an authentic roller (See
Appendix C). The type of wood used for roller
construction was a hardwood, but the species is
uncertain. Hardwoods are classified under many
categories. One such category is relative density.
Relative density refers to the compactness of vessel, ray
cell, and fiber of a hardwood tree. In this category the
classifications are hard, medium hard, and soft. The
hard and medium hard classifications would not be
suitable lumber because of the weight. The rollers must
span 25-to-30-feet of open stage supported only on the
extreme ends. If a hard or medium hard wood were used
the roller would bow in the center causing the drop to
wrinkle. Based on the table of characteristics for
common hardwoods found in Advanced Woodworking and
Furniture Making, the following wood types were
possibilities: balsa wood, bass wood, butternut,
cottonwood, poplar, and willow (Feir and Hutchings 1972,
69). Dr. C. Lance Brockman also supports the use of a
soft hardwood, "drops were wrapped around basswood
rollers for transport by train to the opera house or
client" (Brockman 1987, 88).

were cut in half, producing four pieces of stock

Depletion of timber lands during the last century has left hardwoods with a very high market price. Quality, warp-free lumber is expensive and hard to find. Because of the cost, another material was sought for constructing the rollers.

Aluminum downspouts used to channel rain water from roofs were investigated. Downspout being sold in ten feet linear lengths was insufficient for any roller; so, an attempt was made to join two, ten foot lengths. The cylinders bowed where they were joined because of excess weight. Any attempt to alleviate the bow only added additional weight at the joint, causing the downspouts to buckle. Aluminum downspout were ruled out as a possibility.

Northern white pine was investigated as a possibility for roller construction. Northern white pine, a soft wood, is less desirable because of its grain pattern. The lower grades, which are affordable, contain knots, pitch, and some warpage.

After talking with individuals at the lumber yard, it was decided that Northern white pine might be a suitable replacement. Fifty board feet of 1-by-4-in. (3/4-by-3 1/2-in. actual) lumber was purchased to complete a 25 ft. roller. The widths and thicknesses were cut in half, producing four pieces of stock

5/16-by-1 11/16-in. A small number of cut pieces warped immediately while others stayed relatively straight. The badly warped pieces were discarded.

The next step was to cut the inner support hexagons onto which the quartered lumber would be nailed. The hexagons were cut out of 3/4 in. CDX plywood. The hexagons were 4 in. in diameter with each side measuring $1 \frac{21}{32}$ in. All work drawings and construction were based on an authentic roller in the Theatre Museum at Mt. Pleasant. The roller in the Museum had hexagon supports every twelve inches. Both ends of the roller had an additional hexagon support six inches from the end because this area, twelve inches from either end, was where the ropes wrapped around to raise and lower the drop. The lumber was attached with nails (the size could not be determined).

The twenty-five foot roller necessitated twenty-eight hexagon supports. The lumber was attached to the hexagon supports with no. 6 box nails. In an attempt to minimize the stress of all joints aligning, the lumber pieces were staggered. When two lengths of lumber were joined on end, the lengths shared the hexagon support. All lumber pieces were attached in the aforementioned manner until the hexagons were encompassed. There was no attempt to make the rollers round, but to eliminate the

sharp edges of the lumber surrounding the hexagons, a draw knife was used to blunt them. The finished roller mirrored the original, but it lacked rigidity. Muslin was glued around the roller using Elmer's Carpenters Wood Glue (full strength). The roller was allowed to dry eight hours. The finished roller was then examined for flex. The roller was held approximately three feet off the ground by the ends. The flex was inconsequential and a roller construction plan was established. All remaining rollers followed these specifications. (See Appendix C.)

Proscenium Wings

The proscenium wings and borders made up the false prosceniums. These prosceniums masked the drops, and allowed entrances for actors. Three pairs flanked stage right and stage left. Each proscenium wing was a 6-by-12-ft. flat with 3/4 in. plywood cutouts. The flats were constructed using stage-craft guidelines. The additional pieces of 3/4 in. plywood were cut out with a jig saw. All pieces were laid out in reverse because muslin will be glued onto the smooth side. The keystones and corner blocks were attached to the rails, stiles, and toggles with Elmer's wood glue and 7/8 in. staples. The flat was allowed to dry overnight before attaching muslin. Full strength wood glue was brushed on the

perimeter of the frames but not on the toggles or inner supports because discoloration would occur when painted. The flat was trimmed of excess muslin with a sharp utility knife. All remaining wing flats were built to these specifications.

Three problems arose after the flats were built. First, flawed lumber was used on one flat. Second, one flat was laid out correctly but it was not inverted for joining. Third, perimeter edges of muslin were not glued sufficiently. Problems one and two were solved by rebuilding the flats. Problem three necessitated additional glue on the underside of the muslin edge. (See Appendix C.)

Proscenium Borders

The proscenium borders, expanding the width of the stage, were hung in front of the proscenium wings. The borders consisted of four flats end to end. The two flats on either end had a twenty degree slope that matched the ceiling line of the opera house at Prairie Village. The borders used the same guidelines as the wings. The only changes were in linear measurement. (See Appendix C.)

Summary

The investigator, needing seven drops and wing flats, researched drops at the Theatre Museum, Mt. Pleasant, Iowa. The museum had many drops but only four drops and a wing flat were appropriate. The drops and wing flat were photographed and the photographs were used to duplicate the drops for the production. The saloon and the garret drops were based on designs by Charles H. Stewart and Company. The cottage drop and the borders were designed by the investigator. Having all major scenery accounted for, the next step was a working ground plan.

The problems concerning a script set in London and drops depicting Midwest scenes were solved in a telephone conversation with director, C. E. Denton. Locations were changed and some dialogue modified. The Drunkard was performed in Doner Auditorium and the Prairie Village Opera House. The two stages posed several problems that were addressed and solved.

The ground plan was designed for actors' entrances and masking the drops. Drop location was established based on need. The succession of drops from downstage moving upstage was: front curtain, garret, street, saloon, cottage, front room, and woods.

In addition to the roll drops, some scenery needed to be built. Work drawings were supplied and materials were listed for each unit.

The roller design offered the most challenge. Investigation was conducted concerning the materials used in authentic roller construction. A soft hardwood was strongly suggested as a probable material. Because of the expense of hardwoods, another means of construction was sought. The aluminum downspout was approached as an alternative but its insufficient length proved unsatisfactory--when the downspout ends were joined the joint sagged with the additional weight. Northern white pine proved to be a suitable material for the construction of the rollers. White pine is soft softwood with grain pattern problems. The problems of splintering and strength were answered with a coat of muslin and glue. The ground plans and work drawings supplied a background for the painting technique that will be covered in Chapter IV.

CHAPTER IV

MATERIALS NEEDED FOR PAINTING SOFT SCENERY

The preceding chapters have dealt with the history and background information of drops and ground plans used. This chapter will focus on organizing materials for scene painting, preparation of paint and painting techniques for soft roll drop scenery. The first step involves attaining the materials needed to complete the project.

Organizing Materials

Organizing materials for the scene painting included: buying brushes, obtaining proper tools and choosing the layout method. Each of these topics was addressed before the preparation of paint could begin.

Brushes

Brushes are the most basic scene painting tool. A good quality scenic brush should last a lifetime if cared for properly. Lance Brockman states, "A brush that was purchased as a lining brush was used for foliage painting when the brush became worn" (Brockman 1988).

Based on Bradford Ashworth's Notes on Scene Painting the following brushes were needed.

Lining brushes. Lining brushes are smaller brushes which range in size from a quarter inch cutting brush up to a one inch width. These brushes have long handles.

Foliage brushes. Foliage brushes ranging from one to three inches are a special long-handled type of scenic brush.

Stencil brushes. Stencil brushes are round and come in various grades and hair lengths. They are convenient for stencil work because of their adaptability to the circular or pounding motion used when a stencil pattern is applied to scenery.

Priming brushes. Priming brushes come in eight, ten, or twelve inch widths. A long-haired stock is preferable. They hold a considerable quantity of paint and are used for priming, laying on large areas, coarse spattering and for general painting on extra large work.

The quantity of brushes needed depends on the number of painters. The investigator purchased the following brushes:

Two, one-quarter inch, white, Chinese bristle
liners (long handle);

Four, one-quarter inch, white, Chinese bristle
liners (short handle);

Two, one-half inch, white, Chinese bristle
liners;

Three, three-fourths inch, black, Chinese bristle
liners;

One, two inch, black, Chinese bristle stencil
brush;

Five, one inch, black, Chinese bristle, flint
liners;

Two, one inch, white, Chinese bristle, foliage
brushes;

Two, one-and-one-half inch, white, Chinese
bristle, foliage brushes;

Two, two inch, white, Chinese bristle, foliage
brushes;

Two, three inch, white, Chinese bristle, foliage
brushes.

In order to maintain these brushes, the advice of
Bradford Ashworth was followed:

Scenic brushes are expensive. However, long and
satisfactory service will result with proper care and
treatment of brushes, particularly water color
brushes. After using, these brushes should be washed
carefully with warm water with the hand holding the

bristles close so that the heel will not spread. Brushes should never be left with the brush resting on the bottom of a bucket or pot. This will cause a spreading action. After a thorough rinsing, they are formed to their point or chisel edge and hung, handle up, so that the water will drain from the brush. They may also be laid flat on wire tray-like shelves after forming or shaping with the fingers. When storing for a length of time, it is a good plan to dip the brushes in weak size and, after forming their shape, store with camphor or some other moth repellent. When restored to use again, soak the brushes for a few hours in water which will remove the size and swell the wooden handles (Ashworth 1952, 23).

Tools used for layout

Only the tools and products used in this study will be mentioned; it should be understood that this is not definitive.

According to Ashworth, "Charcoal for drawing is essential. Charcoal sticks in various sizes are used for sketching lines, for marking measurements, and for changing the snap line" (Ashworth 1952, 11). Charcoal sticks were used along with number two graphite pencils to cartoon, or layout, the drawing. Daniel Veaner had this to add concerning charcoal sticks: "When buying charcoal sticks it is important to specify the soft kind that has no oily substance in it. Charcoal is usually used for roughing in drawings or gridding, and it must come off the scenery as easily as it goes on" (Veaner 1984, 30).

A feather duster was used to eliminate unwanted charcoal lines. The feather duster was used in place of the flogger. "The flogger is made by tearing muslin into one inch strips and mounting them on a small handle" (Ashworth 1952, 12).

Straight edges or yardsticks are a must. "A straight edge is made with measurements indented along either or both edges which are reverse bevels. It is made of a flexible maple or some other light wood and is six feet long by three inches wide and one-quarter inch thick" (Ashworth 1952, 12). The investigator used a yardstick. Longer straight lines were achieved with the use of a snap line.

Snap lines are useful but the chalk does not rub off. Ashworth recommends using charcoal powder rubbed onto a length of heavy cord (Ashworth 1952, 12).

A plumb line was a useful tool when a long line needed to be perpendicular to the horizontal plane. The plumb line is only effective if the paint frame is parallel to the floor.

Ink markers were a valuable tool for the layout process. "Because most scene paint is water based, markers must contain waterproof ink" (Veaner 1984, 3). The color used for inking up a drop can be brown or black. Dr. Brockman states, "brown is a better color

because it is not as stark as black. The drops were all inked with brown, permanent markers. There were several other tools needed for various odd jobs. These included: (1) staple guns with one-quarter inch and one-half inch staples for mounting drops; (2) three-quarter inch masking tape for a variety of uses; (3) brown Kraft paper for stencils and masking off areas not to be painted; (4) large and small plastic containers for working size and for paint storage; (5) sponges for cleanup and texturing. "Natural sponges are superior to synthetic because of its rich uneven texture" (Veener 1984, 34). (6) Fourteen inch diameter hand held palette trays were used when a palette table was impractical or cumbersome. The palette trays were cut from one-eighth inch masonite and painted with white latex. (7) One gallon plastic buckets were necessary for keeping water under the palette table.

Choosing the layout method

The importance of muslin and the correct mixture of a working size will be discussed later in this chapter. The next step in the long series of processes was choosing the layout method.

There are two ways to paint a drop. "The floor method or the continental method consists of painting scenery while it lies flat on the floor: (Ashworth 1952,

10). The frame method consists of painting scenery in an upright position. The negative and positive aspects of both types were considered. The outcome was based on the following:

1. Scene shop space was limited as the Prairie Repertory Theatre company was building and painting three other sets.

2. The photographs of the drops could not be projected on the floor.

3. The scene shop's concrete floor posed a problem for securing drops for floor painting.

4. Excessive heat in the higher areas of the shop would hamper frame painting.

5. Scaffolding would need to be built for frame painting.

After analyzing the pros and cons of each method, the investigator approached Professor C. E. Denton, former designer and technical director for South Dakota State University, with his findings. Professor Denton agreed that based on the limitations of the scene shop, the frame method would be superior.

Lumber stock measuring 1-by-4-in.-by-12-ft. was used for the paint frame. The lumber was nailed to the wall using number six common nails. The top and bottom rails of the frame had to be parallel to the floor and

the side stiles needed to be at right angles to the rails. The distance between top and bottom rail was fourteen feet. Since all drops were the same height, this measurement never changed. The distance between stiles depended on the drop being painted. The distance between the stiles was two feet greater than the finished drop.

Because the scene shop was not equipped for painting drops, the two problems that needed to be addressed about frame painting were:

1. What type of scaffolding should be built?
2. How could the excessive heat problem be resolved?

The following criteria for scaffolding were established:

1. Must be free standing
2. Must support three or four scene painters and have room for a palette table.
3. Must be moveable
4. Must be high enough to reach the top of the drop.

It was determined by the investigator that a four by eight foot area would allow sufficient room for three or four painters and a palette table. Two rectangular platforms were made using 2-by-4-in. pine for the rails,

stiles, toggles and 4-by-8-ft.-by-1/2-in. plywood for the top. The four by eight foot rectangular platforms were legged at 7 ft. high and 8 ft. high. Two, 3 1/2-by-3/8-in. carriage bolts were used to fasten each of the six legs to the platform. Cross-bracing was added to each platform for the necessary stability.

The excessive heat problem was not resolved and had a profound effect on the scene shop crews. When fatigued with heat, painters working on the scaffolding had to be relieved by painters working on the ground level or the shop was closed.

Preparing to Paint

Preparing a scene shop for painting required some preliminary work. The first task was to decide on a pigment binder, pigment colors, a mixing palette, and fabric to paint on.

Pigment Binders

The preparation of a drop for painting is called priming. "The different types of priming are defined by the basic ingredient which is used: whiting, starch, sizing, alum, casein, paste, Irish moss or dye. The common binder or vehicle of all of these types of priming is glue size" (Ashworth 1952, 6).

The glue used as a binder for the drops was an animal glue purchased from Theatre House, Inc., Covington, Kentucky. The liquid animal glue came in one gallon jars. The properties of the glue are unknown. In a telephone conversation with Theatre House on June 5, 1988, the investigator inquired about the background of the glue. The employee of Theatre House could not divulge any information about the substance except that it was an animal glue and water soluble. The glue, resembling caramel colored syrup, was sold in condensed form. The directions listed on the bottle required a mixture of one part glue to fifteen parts hot water. The diluted glue was tested by dipping two fingers into the size, allowing them to dry, then pressing the fingers together and snapping them apart. The skin on each finger should pull slightly until separated. The test proved that the size was not properly diluted. After experimentation, the proper mixture was one part glue to twenty parts hot water. According to Dr. Lance Brockman, theatre department designer for the University of Minnesota, "If your size is too strong it will crystallize on the drop, making it shiny; if the size is too weak, the pigment will rub off" (Brockman 1988). Dr. Brockman also suggested adding pine-sol to the size when

spoilage begins. The working size was kept in a sealed ten gallon plastic pail until it was applied to the drop.

Paints

Dry pigment, the least expensive form of scene paint, was used by scenic houses at the turn of the century. Dry pigment is still the least expensive paint base today but according to Daniel Veaner, "the most expensive in terms of preparation time and effort" (Veaner 1984, 59). Brockman agrees, "only the purists use dry pigment with working size, I prefer them because of their chroma" (Brockman 1988). Pigment colors or dry colors are sold by the pound. The dry colors used for the drops also came from Theatrical House. They had twenty-six variations of the primary colors.

The dry colors used by the investigator were based on the palette of colors used by Dr. Brockman. The colors were: Turkey Red, Lemon Yellow, Yellow Ochre, Raw Sienna, Burnt Umber, Zinc White, Raw Umber, Vandyke Brown, Medium Chrome Green, Ultramarine Blue, and Chrome Orange. Five pounds of each color was purchased. The shelf life of dry colors is indefinite. The dry colors, if mixed with water or left dry, will not spoil. Spoilage occurs only when dry colors are mixed with a binder. A pound of each color was mixed with water and kept in sealed plastic containers. Vandyke brown was one

color that did not readily mix with water. According to Ashworth, "Some dry colors cannot be cut satisfactorily with only water. For these colors it is necessary to use a small quantity of alcohol. Denatured alcohol is best, but if this is unavailable, rubbing alcohol will serve the purpose" (Ashworth 1952, 16). The consistency of the mixed pigments should resemble a thick mud. If the pigments dry out while in the containers, they may be re-wetted and mixed. The dry pigment, when mixed with water, eliminates the problem of pigment dust in the air. It should be noted that dry pigment cut with working size is not waterproof. Dried pigment on a surface of wood, muslin or any other material will run, spot, or bleed if it comes in contact with water. Colors applied on the surface of the material will blend and react with other colors laid on top of them. The pigments, now mixed, required a mixing palette.

Palette Tables

Palette tables, a necessity for drop painting, were constructed with scrap materials. The palette tables held pigment mixtures, sizing, water buckets for rinsing brushes, and small tools. The investigator established the minimum requirements for palette tables:

1. The top should be large enough to accommodate the ten pigment colors, mixing area, and place for size container.

2. The table should be forty inches high.

3. It must have swivel casters.

4. It must have a lower shelf for tools, water bucket, and brushes.

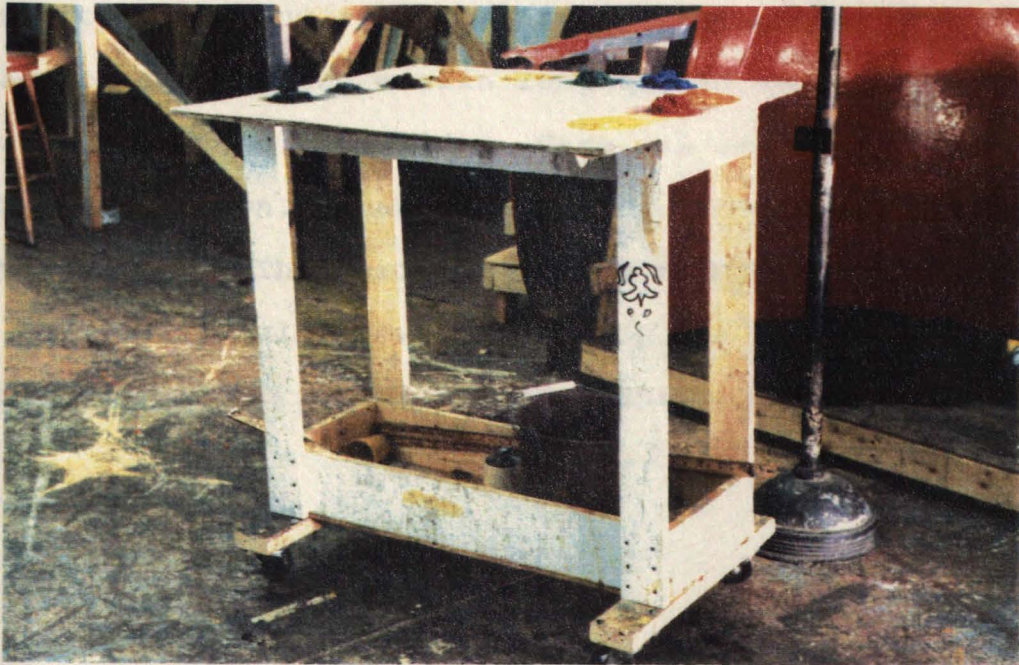
5. It must have only a minimum weight to enable raising and lowering of palettes from the scaffolding.

Three palettes were built to the preceding specifications. The top of the palette was 24-by-36-by-1/2-in. plywood. The plywood top was covered with muslin and painted with white latex paint. The top was painted white so that proper mixing could be done. The lower shelf, 12-by-36-in., contained extra brushes, clean water and small tools.

Muslin

The basic material used for drops and covering flats in The Drunkard was unbleached muslin. It was used instead of bleached muslin because "muslin loses its vitality in the bleaching process and the starch filler may cause a moire water mark when color is applied"

(Ashworth 1942, 1).



The material used at the height of roll drop scenery, 1895-1929, was probably linen. Bradford Ashworth states,

Before the price became prohibitive, linen, of a flax content and rather coarse (both bleached and unbleached) was used almost exclusively for the covering of scenery and for drops and cycloramas. It is still procurable and is used for the better grade of work. Linen has the feel of a fine piece of watercolor paper. The advantages of using linen are its receptivity to color, its strength, and its durability in withstanding the constant wear and tear of backstage operations (Ashworth 1952, 1).

The muslin used was purchased from S. C. Winter Textiles, New York, New York. Two seventy-eight inch wide muslin panels were required for each drop. Muslin lengths were cut two feet longer than the finished lengths to allow for proper hanging. Size fifty, white, cotton thread was used to join the two muslin lengths for each drop. The sewn hem was one inch wide. Care was taken when the panels were sewn, because an uneven or buckled seam will not hang out. The horizontal seam eliminated the problem of the muslin bulging when the drop was rolled up. After a drop was sewn, it was folded and labeled by name.

Hanging the Drop

The tools and materials discussed previously in this chapter were used to hang the drop. The platform, with a small ladder on it, was placed in front of the drop. Two large ladders were placed on either side of the platform. The sewn drop was unfolded and attached to the top rail of the frame with 1/4 in. long staples. As the muslin was stapled, from right to left, it was pulled taut to remove small wrinkles. Staples were placed every six inches. The drop was then stapled to the bottom rail. The stapling was begun at the center and was worked towards the stiles, always pulling the fabric evenly. According to Dr. Brockman, "care must be taken when stretching a drop, if it is stretched unevenly the fabric will return to its normal position when taken down from the frame, resulting in a crooked painted drop" (Brockman 1988). The drop was then stretched and stapled to the stiles following the previous steps. When all stapling was completed, the drop was wrinkle free. It should be noted that all stapling was on the edge of the frame, not the face.

Sizing the Drop

The sizing having been prepared was brushed and sponged on to the entire drop. A sponge was used because

Figure 3. Student crews hanging muslin drop on paint frame.

Figure 4. Attaching the muslin to the top stile of the paint frame.



it held a considerable amount of working size, allowing the artist to prime a larger area with fewer trips for additional size. Once started, the sizing application had to be completed immediately to avoid uneven shrinkage. Depending on humidity conditions, the drop should dry in two to three hours. As the drop dried, severe wrinkles and sags began to appear. When the drop was completely dried, the severe wrinkles and sags remained. The investigator contacted Janet Ryger, Scenic Artist in Residence, University of Minnesota, on May 23, 1988 in reference to the severe sagging. Miss Ryger suggested wiping the backside of the drop with water. This was not possible because the frame was nailed to the wall. She then suggested re-stretching the drop all along the bottom and sides. The drop was re-stretched and the problem was alleviated. The same pattern was followed on subsequent drops.

Transferring the Picture

The process of transferring can be completed in two ways. The first method employs scaling off the drop in one to three foot squares. The finished product results in a grid pattern of squares. The sketch has also been broken down into a grid of squares. The second method employs an electric projector to transfer the design, photograph or slide. The project method was used

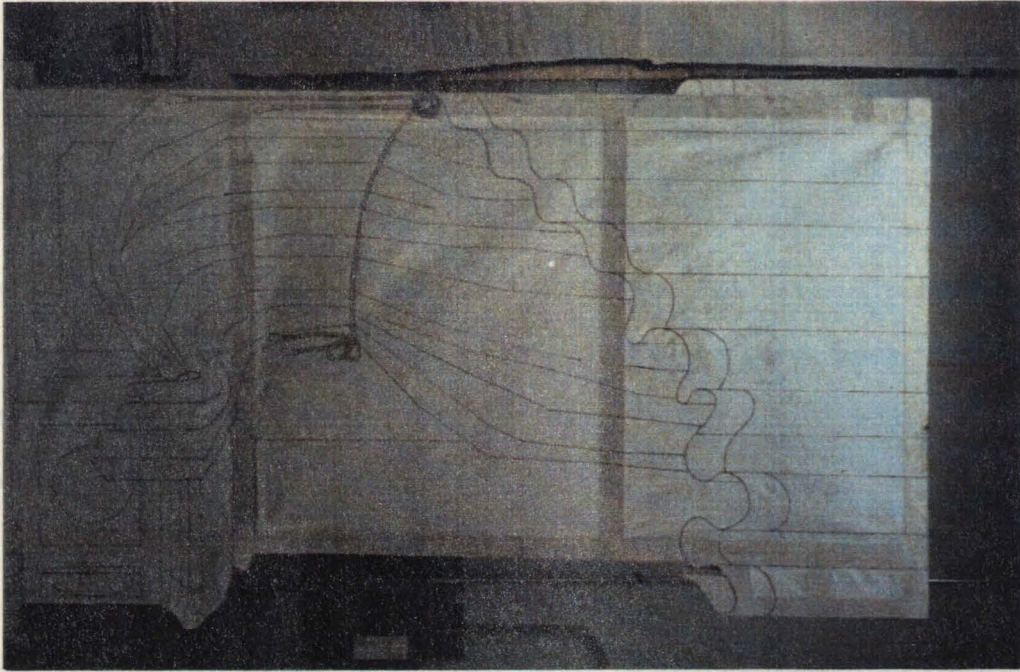
by the investigator. A slide projector with a 35.56 millimeter lens was used to project the front curtain, front room, street, and woods drops. An opaque projector was used to project the saloon, garret, and cottage drops. Total darkness was necessary when using the projectors. Any stray light made it difficult to see the image. The dominant contour lines were sketched while the lights were off. When all contour lines were sketched, the lights were turned on and corrections of the sketched lines were begun. Using a yardstick, all lining was corrected and additional lining was added. The image, now correctly sketched, was inked, using a wide tip, brown, permanent magic marker. All inking of straight lines required a straight edge. Not using a straight edge will destroy the cleanness of the line. The finished, inked drop resembles a page from a children's coloring book.

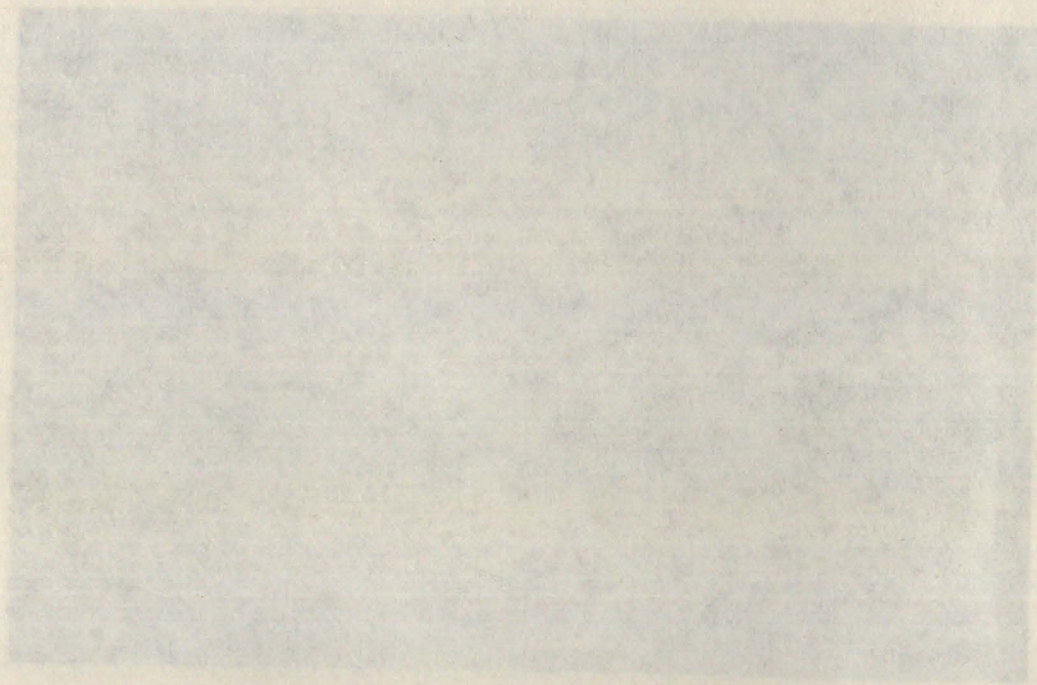
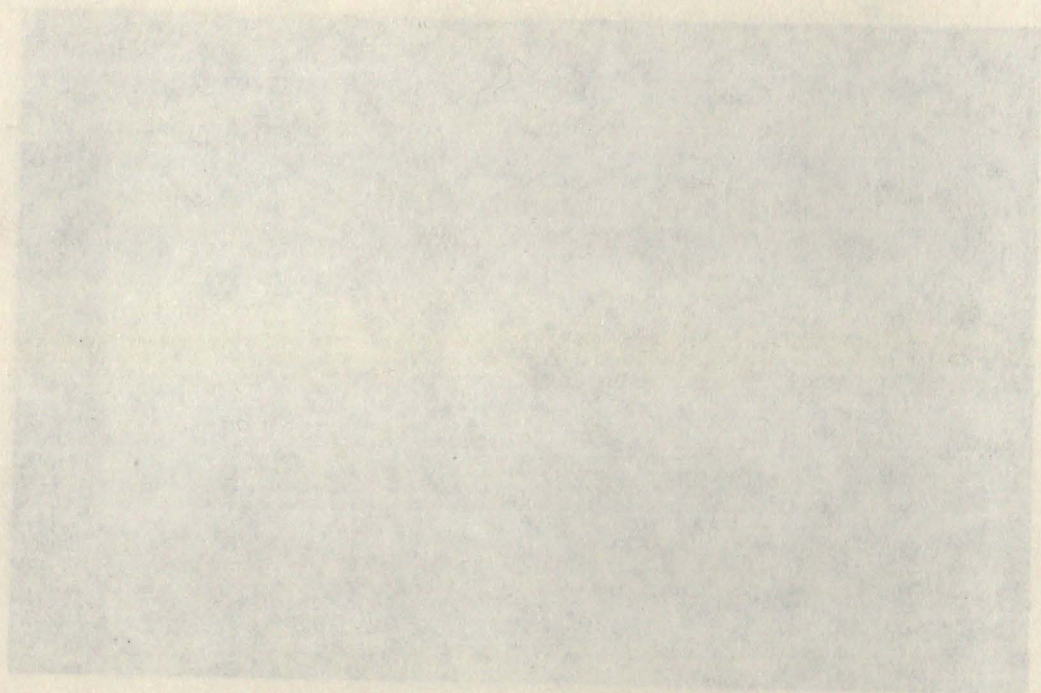
Preparation of Palette Table

The drop was ready for the application of pigment. The palette tables were prepared for painting. One-half pound of the mixed pigment was placed onto the table. The mounds of pigment were arranged in a semi-circle with approximately three inches between. When the pigments began to dry out painters simply squeezed additional water onto the pigment with a sponge. A

Figure 5. Inked proscenium wing flat.

Figure 6. Inked saloon drop.





container of water and a container for size were necessary on the palette table.

Mixing the Pigment

The pigment that was painted on the muslin was mixed in small puddles on the palette table. There was not any use of large quantities of pre-mixed paint. The process began with dipping the brush into the size water then onto the edge of the pigment mound. Once the brush was loaded with pigment, the pigment was worked into the bristles of the brush for uniformity of color. The pigment with size as a binder was brushed onto the drop. According to Dr. Brockman, "The trick to accomplished scene painting is not using too much pigment and not overworking an area" (Brockman 1988). The investigator found that it was difficult to remove unwanted pigment once applied to a drop. Most pigment would wash out, leaving a stain. A solution of one part bleach and four parts water aided but did not remove the stain.

The ten color palette was used for the mixing of any color combination. Example: If lavender was required the pigments used were Turkey Red and Ultramarine Blue. For a cooler lavender, more blue or a touch of green was added. For a warmer lavender, more red or a touch of lemon yellow was added. Each time a different color was required the brush was first rinsed

Figure 7. Brush loaded with size and pigment is worked into the brush.

Figure 8. Layout of the prepared ten color pigments.



Blending Skies, and Bodies of Water.



Base coat.



in water. This system of mixing pigment was used for all scene painting.

Painting Techniques

Painting techniques used in The Drunkard were based on past experience with scene painting, interviews with Dr. Brockman and two printed sources, Scene Painting and Notes on Scene Painting. The drops used in The Drunkard contained many different settings and painting techniques. The following techniques from The Drunkard will be addressed: Drapery, Marble, Foliage, Plaster and Stone, Lining, Stenciling, Woodgraining, Pointillage, Blending Skies, and Bodies of Water.

Drapery

The most important aspect of painting draped fabric was the art of drawing the contours correctly. Velour hangs differently than silk, but how can this be represented in paint on a two-dimensional piece of muslin? The answer came from Dr. Brockman, "folds in draped fabric are planes, not curves" (Brockman 1988). The drapery folds in the front curtain and wing flats in The Drunkard are evidence of Dr. Brockman's theory. The methods used for painting drapery were:

1. drawing and inking,
2. base coat,

in water. This system of mixing pigment was used for all scene painting.

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1. Drawing and inking
2. Base coat

3. lay-in color,
4. highlight and shadow.

Drawing the drapery was not a difficult task because the image being drawn was projected with a carousel slide projector. The individuals sketching the drapery were conscious of the plane approach. The drop was drawn with number two graphite pencils and charcoal sticks. The incorrect graphite lines were removed with a large eraser. The drawing of the wing flats was a bit more complicated. The wing flats used were larger than the originals; therefore, these were drawn freehand using a straight edge and tape measure for tools. All measurements and lines were checked before inking. A brown permanent marker was used. Permanent marker cannot be removed but can be painted out.

The base coat of pigment was Vandyke brown. The brush size to use was decided by the individual artist. The investigator preferred a two inch foliage brush for its ability to carry a large load of pigment. The brush was dipped in sizing then onto the edge of the Vandyke brown. The paint, loaded in the brush, was puddled in the center of the table and worked into the bristles of the brush. The heavily loaded brush was stroked onto the muslin in the shadow areas first. As the brush released its pigment in the shadow areas of the folds, the color

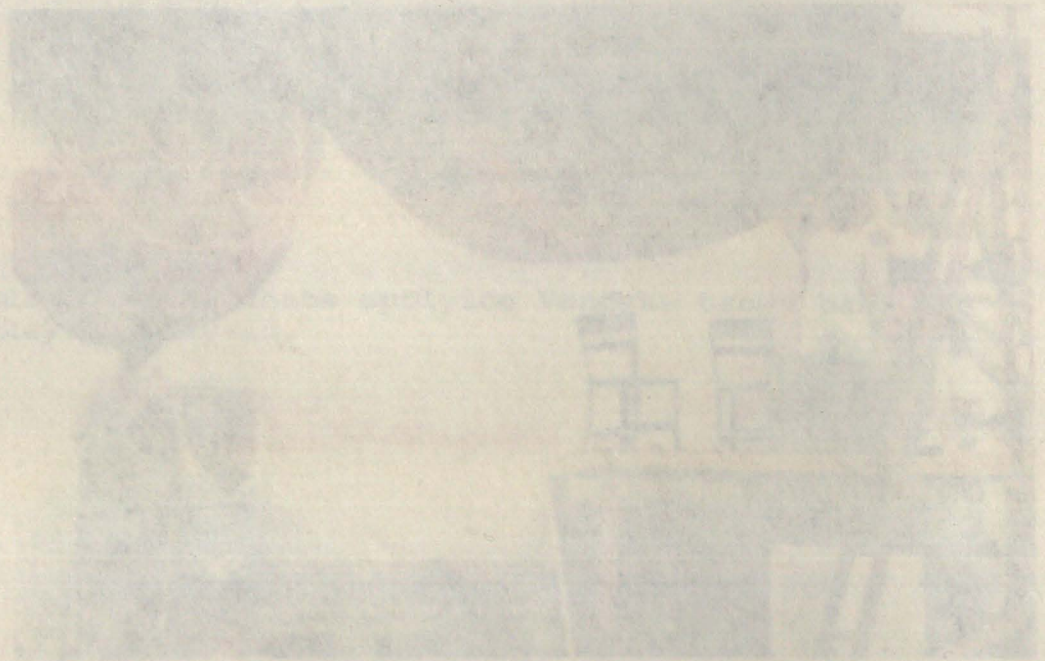
Figure 9. Application of Turkey red over Vandyke brown base coat.

Figure 10. Students applying Vandyke brown base and Turkey red lay-in.



James S.
Hart Co.

1870



was blended towards the highlight areas of the fold. All draperies were painted with Vandyke brown. The finished product resembled a black and white photograph of draperies complete with grey value tones.

The lay-in color was Turkey red. The pigment was mixed with size and applied onto the drop. The applied pigment will mix with underlying pigments if overworked. Turkey red was brushed evenly over the folds. The approach was the same as the application of Vandyke brown. The tie-back ropes were painted with a combination of yellow ochre and lemon yellow.

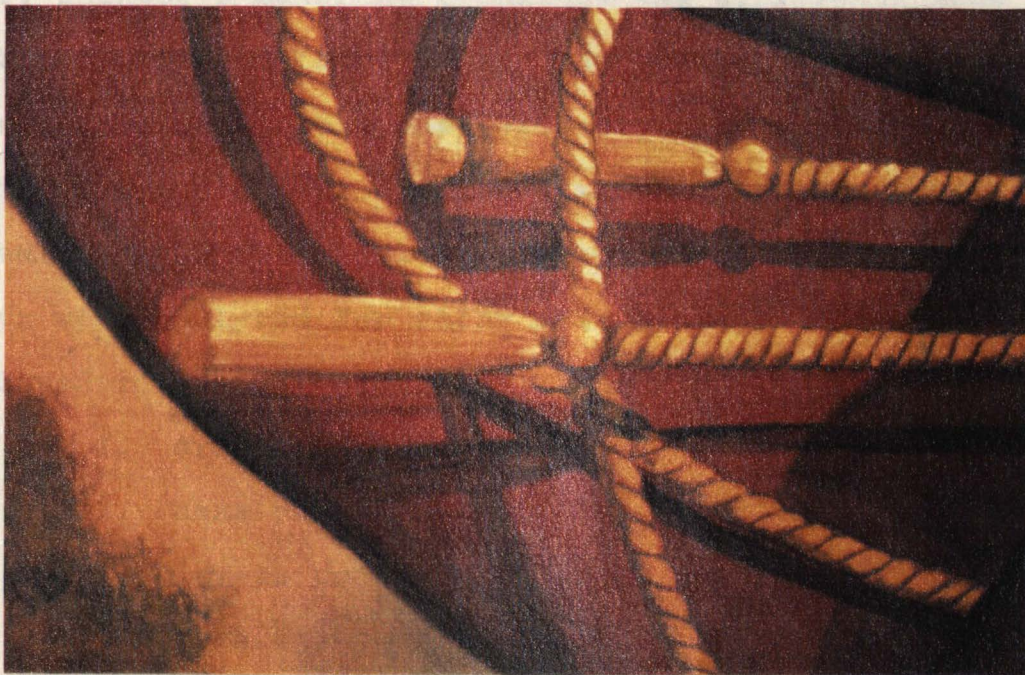
The highlight and shadow were two elements that gave an object dimension. The shadows cast by the ropes were painted with a weak solution of Vandyke brown and sizing. According to Mr. Ashworth, "The shadow is mixed thinner in consistency than the other colors so that it may be used as a wash shadow" (Ashworth 1952, 33). The shadows were painted to conform to the folds of the curtain.

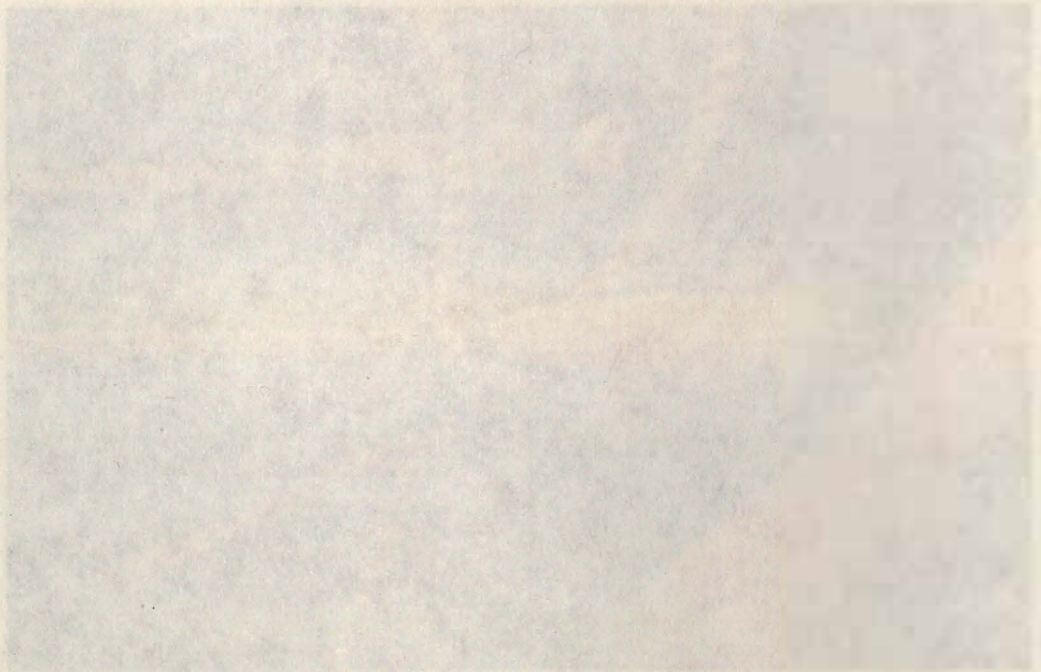
Marble

Because there are many different types of marble, the color and veining pattern can vary a great deal. Marble veins range from a clean, sharp line to a fuzzy, broad line. The investigator found that some crew members had a better working understanding than others.

Figure 11. Shadows cast by ropes painted with Vandyke brown wash.

Figure 12. Shadows following contour of curtain.





Every painter's marbling technique was different, some combined bold and faint lining that projected depth while others combined colors that projected visual interest. Their combined efforts resulted in a finished product resembling the mottled look of marble. The original wing flats were analyzed for color and veining. The steps employed for marbling were:

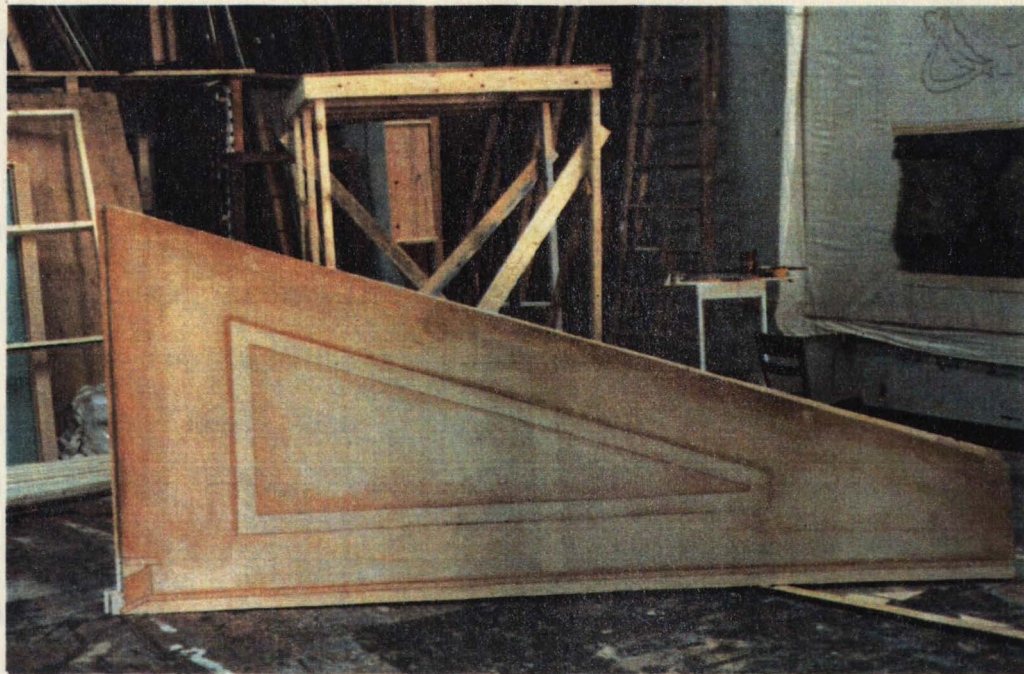
1. drawing and inking,
2. base coat,
3. lay-in color,
- 4, veining,
5. highlight and shadow,
6. glazing.

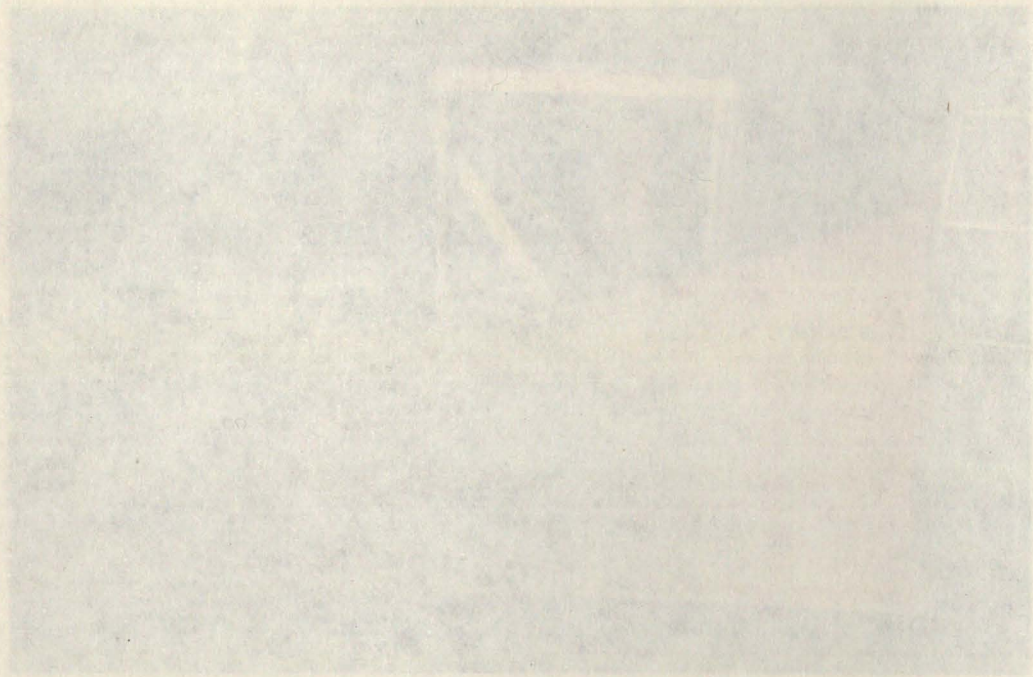
The drawing and inking was applied the same as for drapery. Once the inking was accomplished the base coat was applied. The yellow ochre base coat was also applied in the same manner as for drapery. The darker areas were painted heavier to help them recede and the lighter areas were painted weaker to help them advance. The areas of extreme highlight were not base coated.

The lay-in color was a combination of medium chrome green and Vandyke brown. The two colors were mixed on the palette, then brushed onto the flats. The amount of green versus Vandyke brown was purposely altered with each puddle mixture. The variance in color

Figure 13. Proscenium border with yellow ochre base coat.

Figure 14. Chrome green and Vandyke brown being mixed on palette for lay-in color.





tone aided in irregularity which is a characteristic of marble.

The veining was accomplished with zinc white and Vandyke brown. The two colors were applied separately using a one-quarter inch short handled liner brush. Zinc white was applied before Vandyke brown because it dries a brilliant white. The technique incorporated a linear brush stroke rather than a wavy one. The linear brush stroke was predominantly diagonal with random zigzag lines. According to Mr. Veaner, "The two tools most often used for marble veining are the liner and the feather. Feathers were used in colonial America to simulate marble in civic buildings for which the colonies could not afford real marble" (Veaner 1984, 113).

Shadow lines were painted under the relief molding. Highlights were placed according to the established light source.

The glazing was a weak concentration of the lay-in color. The glaze being applied over some of the veining gave the marble depth. Some veins appeared to be advancing to the surface because of this technique.

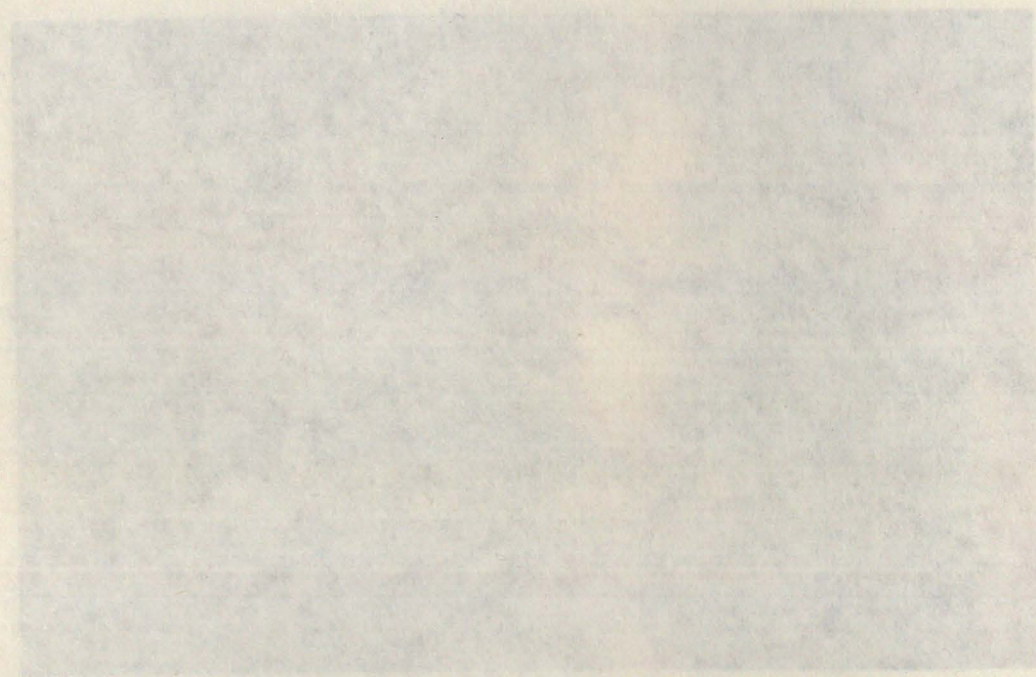
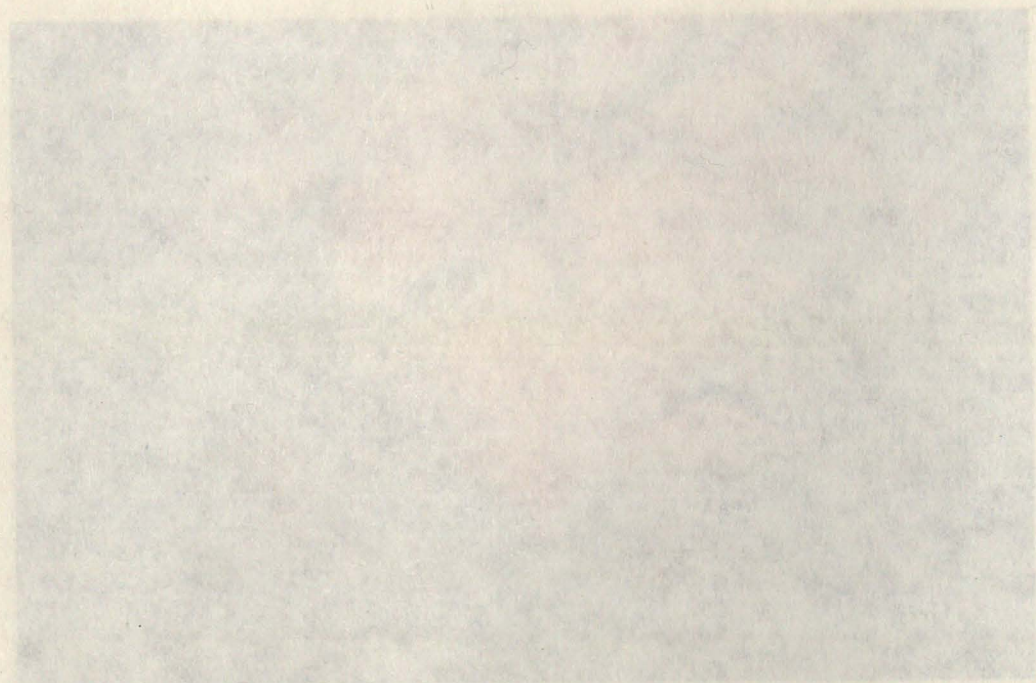
Figure 15. Close-up of marble painting technique.

Figure 16. Marble painting technique of the pillared wing flats.



techniques. The woods crop from Mt. Fuji, 1868, and
leaf patterns that resembled sea shells. The wood grain





Foliage

Foliage painting required establishing a light source, the species of foliage, and the season of the year. The preceding requirements were needed only for the painted bush. The perimeter of the bush was decided when the unit was cut out of three-quarter inch plywood. The interior consisted of painted branches ranging from brown to grey and painted leaves ranging from blue-green to gold. Most foliage was green but in order to show depth, tints and shades of the color were necessary. The brush techniques for foliage were a combination of all techniques. The woods drop from Mt. Pleasant, Iowa, had leaf patterns that resembled scallops. The investigator experimented with many different techniques before starting the painting process which included:

1. drawing and inking,
2. base coat,
3. lay-in colors,
 - a. background,
 - b. middle ground,
 - c. foreground,
4. highlight and shadow.

Figure 17. Foliage technique applied to murals in front room drop.

Figure 18. Foliage technique used on bush for woods drop.



Wendyke brown, and Turkey red.

Because of the irregularity of the color.



The drawing and inking did not require extensive precision of detail. The trunks of the trees and rocks were clearly inked but the leaves were not. The basic shape of the clumps of leaves were drawn but not inked.

The base coat for the leaf clumps was yellow ochre. Using the original as a guide, yellow ochre was brushed onto the drop suggesting the leaf patterns. Raw sienna was used as the base coat for the foreground and middle ground trunks. The shadowed side of the tree received more pigment. The background trunks were painted with a combination of blue, green, yellow ochre, Vandyke brown, and Turkey red.

Because of the irregularity in the color of leaves and bark, it is difficult to record the colors used. The background received no additional color excluding some texturing with Vandyke brown. The middle ground and foreground used the same colors of pigment. The technique that separated foreground from middle ground was highlight and shadow.

Shadows were painted, using the original drop as a guide; even though the original had severe damage, making it difficult to determine colors used. The deep shadow was Vandyke brown based; the medium shadow was raw umber based. The highlight was the background colors

Figure 19. Woods drop exhibiting yellow ochre base.

Figure 20. Close-up depicting background, middle-ground, and foreground.

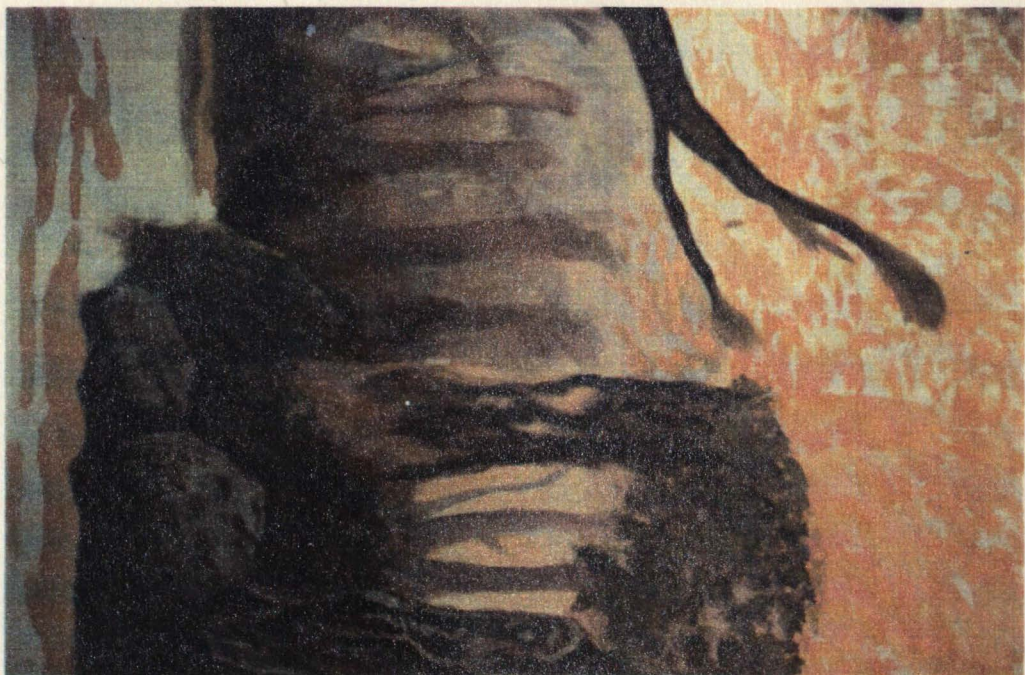
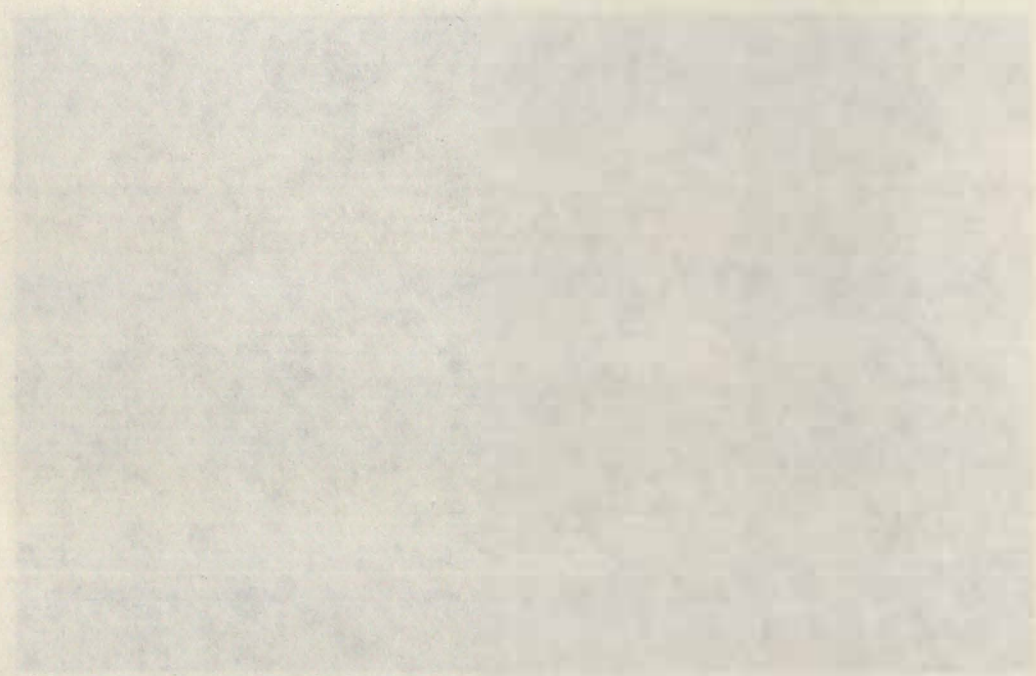
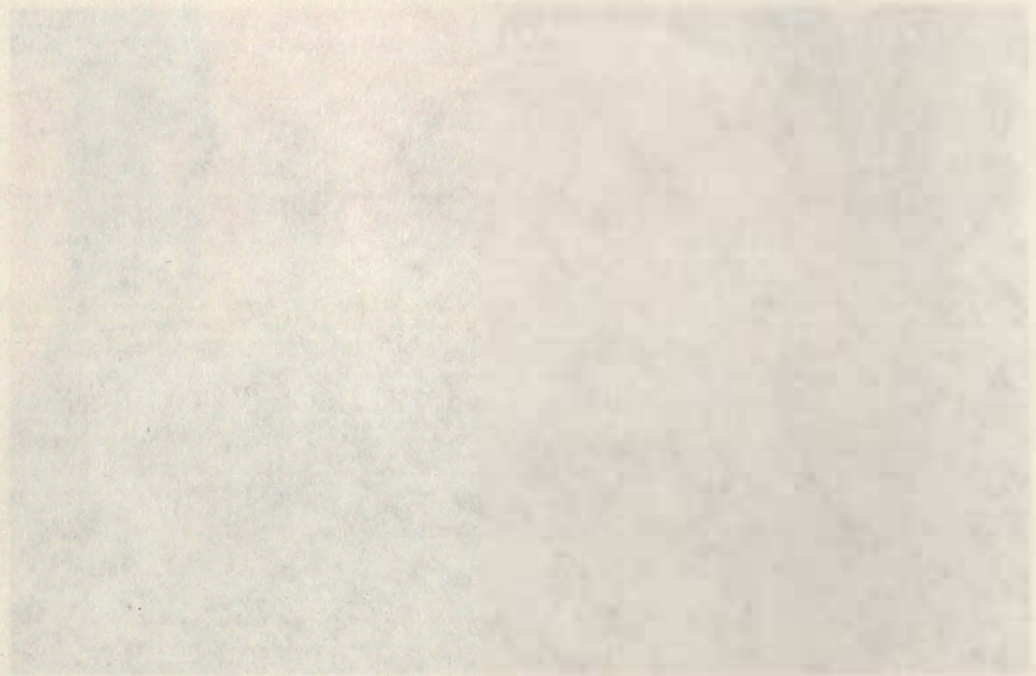


Figure 21. Tree washes used for background.

Figure 22. Technique used to paint tree bark.





consisting of blue, green, yellow ochre, Vandyke brown, and, Turkey red, with the addition of zinc white.

Plaster and Stone

Plaster and stone work required wet blending techniques. Wet blending was accomplished by brushing colors together while still wet on the drop and involved the following steps:

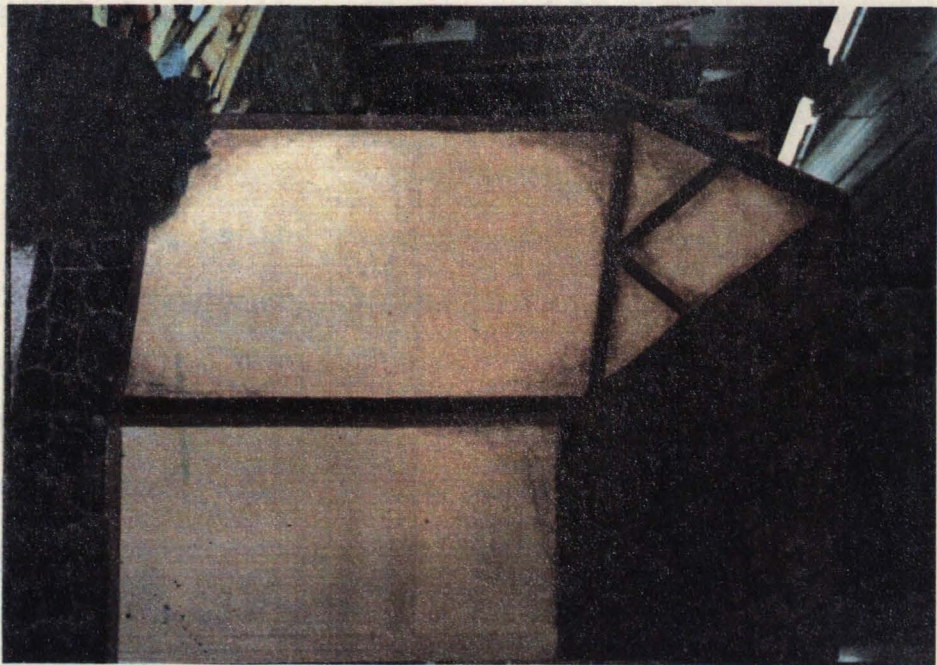
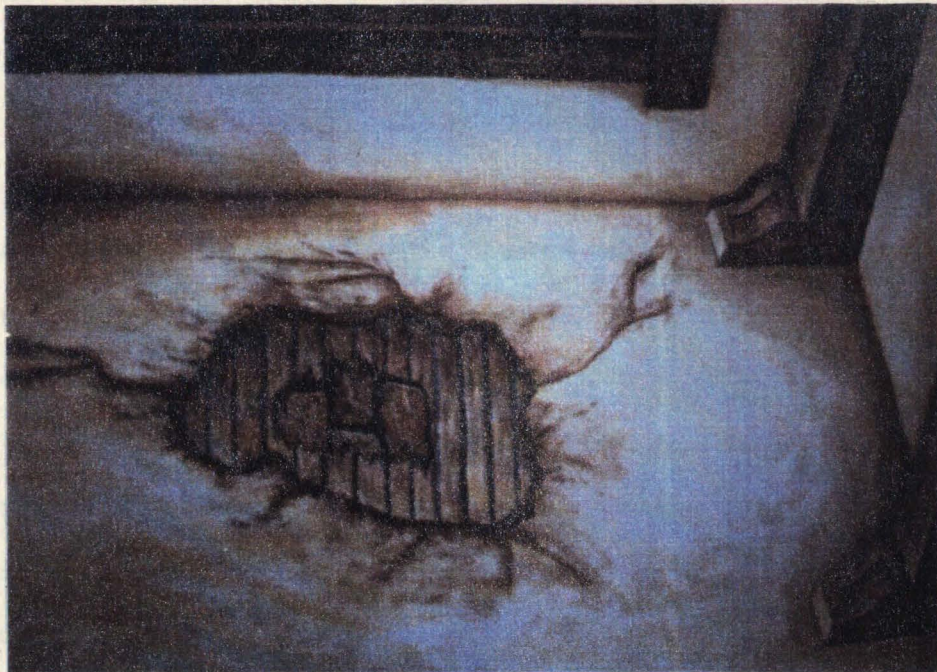
1. drawing and inking,
2. lay-in color
3. texturing,
4. highlight and shadow.

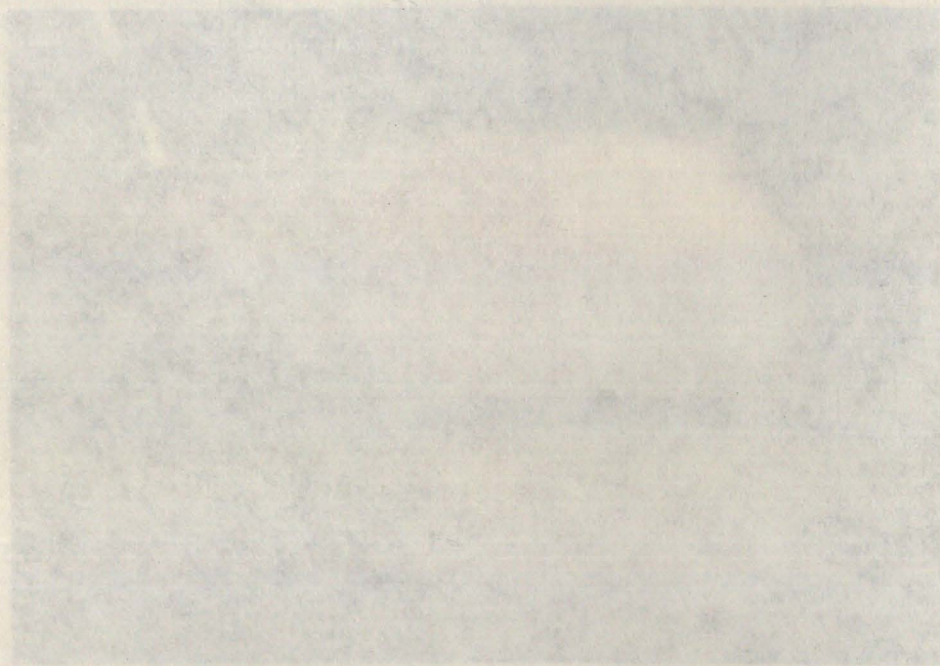
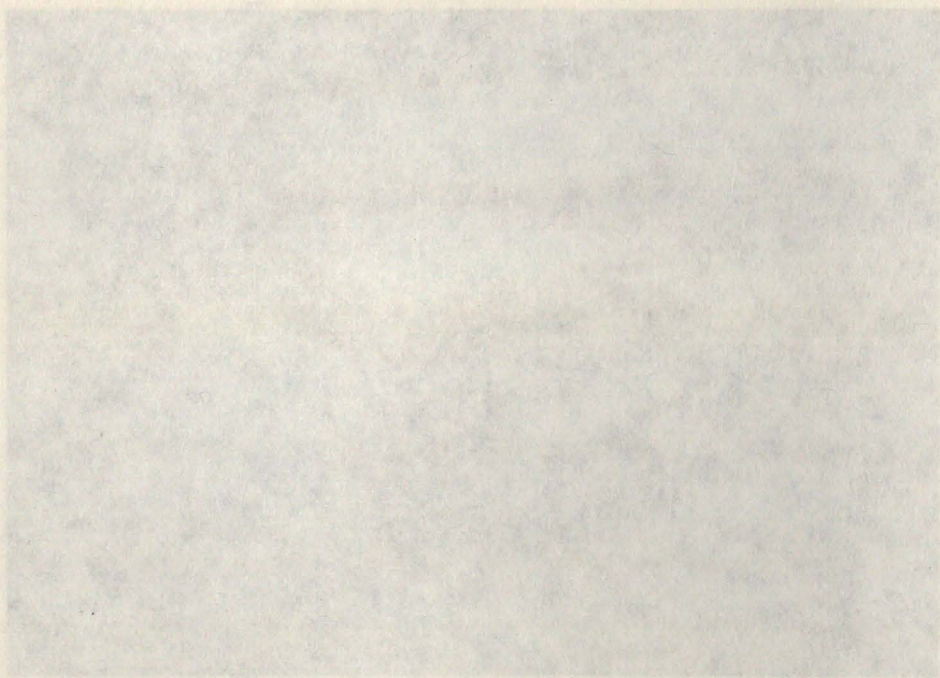
The garret drop utilized plaster and stone painting techniques. The design was projected with an opaque projector. The drop was correctly drawn and checked before inking. Stone work was laid out with coarse lines. When properly inked, the drop was ready for the lay-in colors.

The lay-in colors were a combination of green, raw sienna, and yellow ochre. The color was applied in a circular motion over the entire drop. A mixture of red, raw umber, green, raw sienna, and yellow ochre were the pigments used along the corners and edges of the drop. The wooden lathe beneath the plaster was a combination of blue, red, yellow, ochre, and zinc white. The mortar between the lathe was represented with a mixture of

Figure 23. Stone and plaster used on interior of garret scene.

Figure 24. Stone and plaster used on exterior of cottage.





Vandyke brown and blue. Stones were a variance of warm color tones.

The walls were textured with plaster cracks, created with irregular lining techniques. The appearance of the drop being roughly textured was achieved by not over-working the blending process. The colors were allowed to mix visually rather than artistically.

The beams achieved three dimensionality with the use of highlight on beams, forced perspective, and the use of a ceiling. All three aspects were shaded and tinted according to the established light source. The highlights used the lay-in base with the addition of lemon yellow and zinc white. The shadowing was accomplished with the addition of blue to the lay-in base.

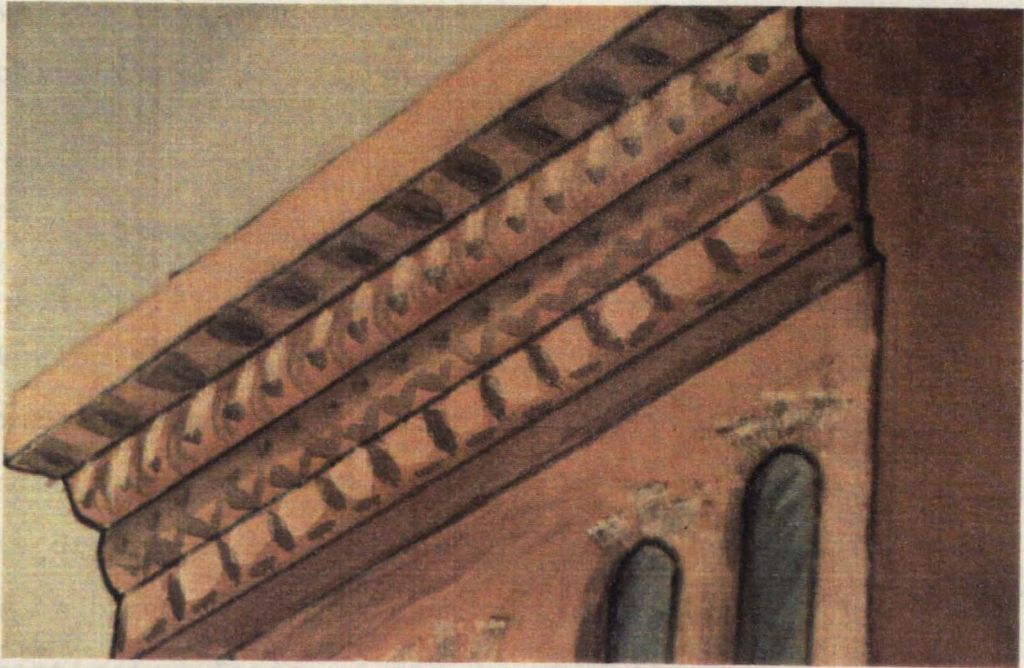
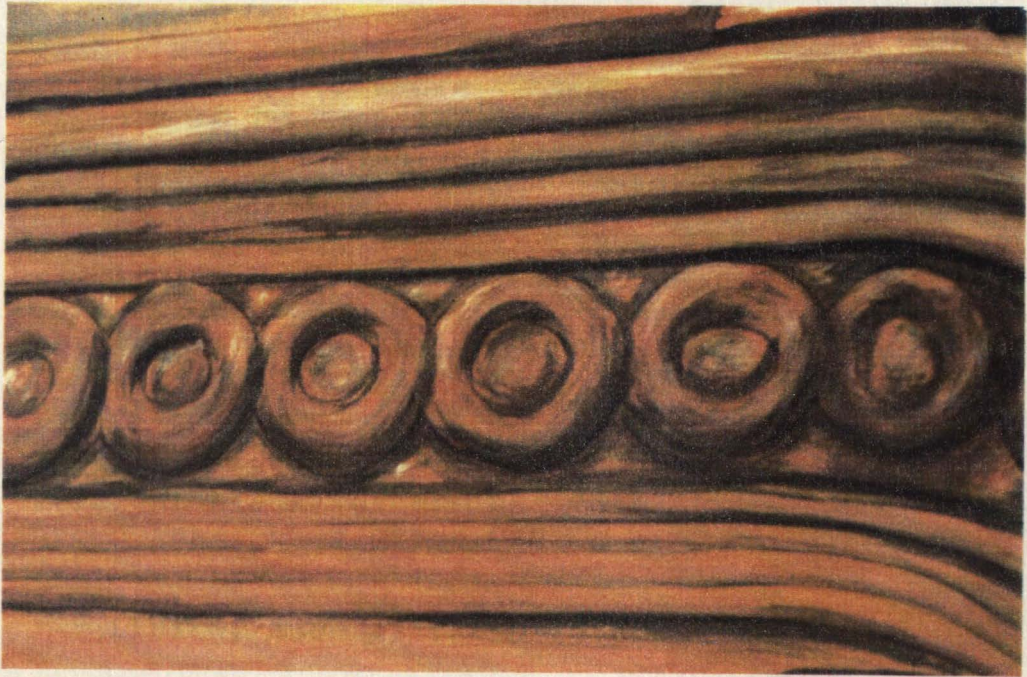
Lining

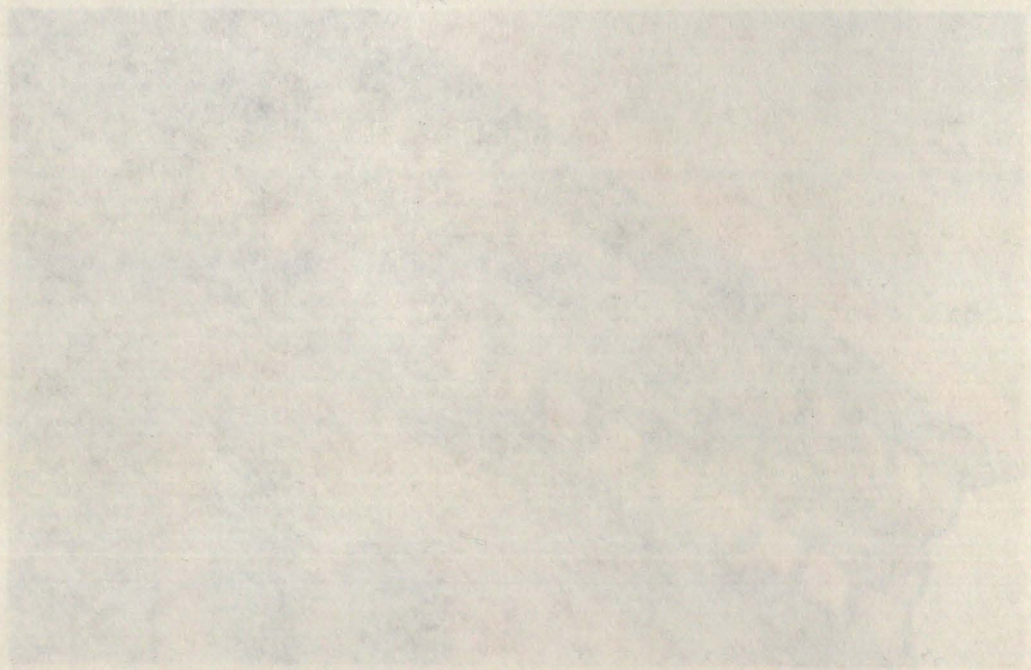
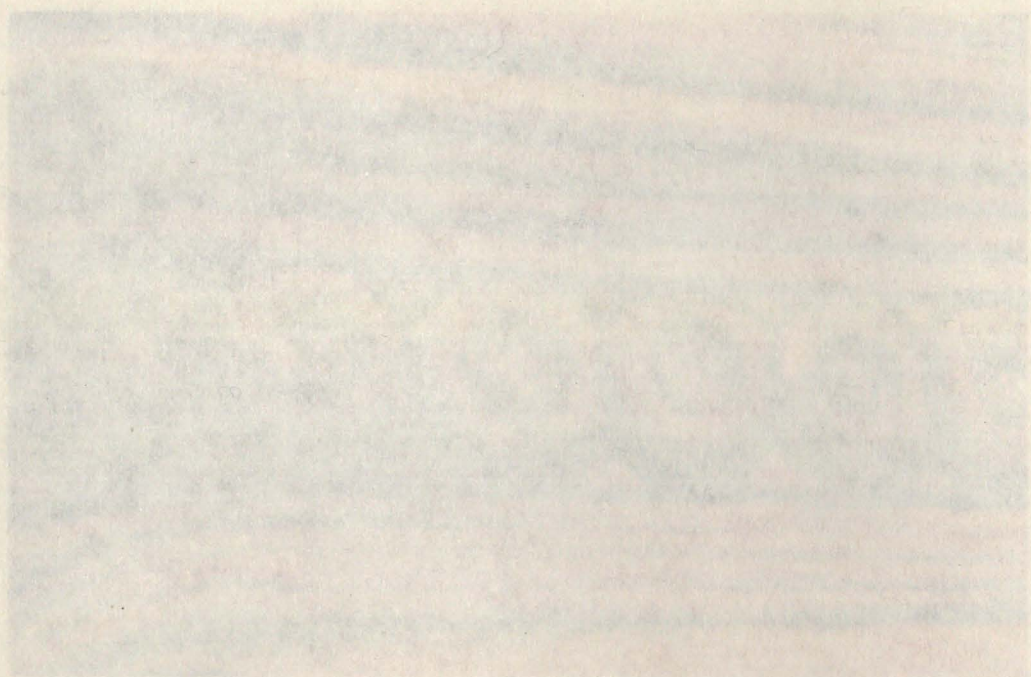
Lining is the process of painting architectural detail of moldings, cornices, panels, and doors. "Although lining appears to be a purely mechanical operation, it becomes a very personal technique" (Ashworth 1952, 32). If properly administered, lining of a painted molding reads better than the actual because of the distance scenery is from an audience.

The investigator studied Bradford Ashworth's comments before the lining process was begun.

Figure 25. Architectural detail of drug store on street drop.

Figure 26. Cornice detail of building on street drop.





After becoming familiar with priming and color mixing, the apprentice in a scenic studio learns to render all the various combinations of the above moldings and commences to LINE. Although lining appears to be a purely mechanical operation, it becomes a very personal technique. Certain scenic artists particularly excel in this type of painting. Lining is the process of reproducing three dimensional moldings with paint. Lining can be so skillfully done that a painted molding can "carry" more effectively than the actual built detail used on the same scene.

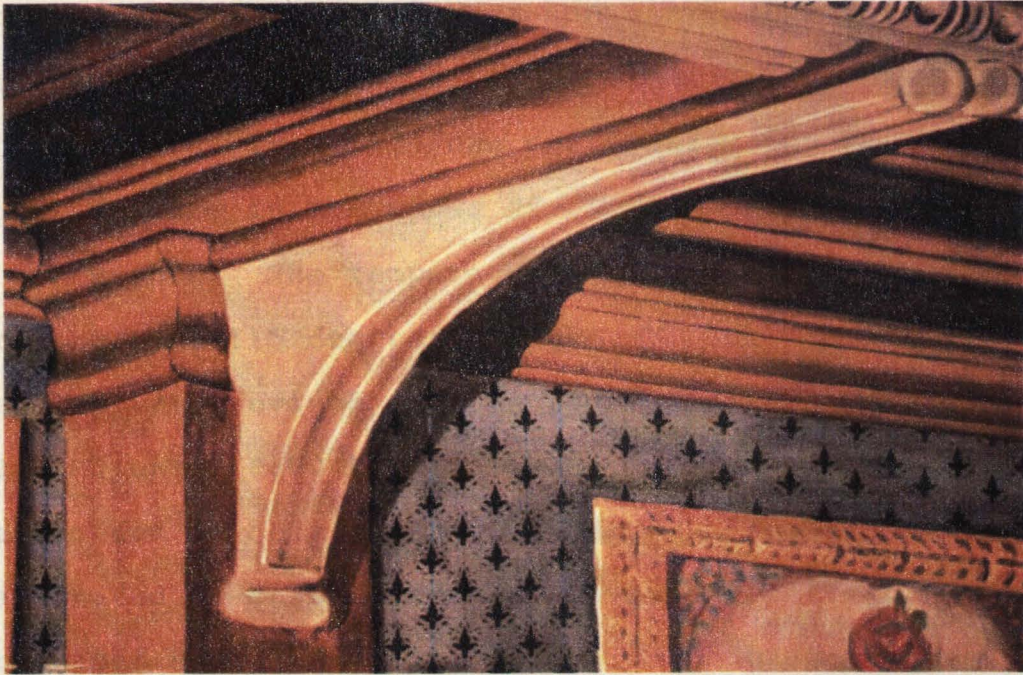
Look carefully again at the detail of the molding. Another line is suggested. This called the accent or the cutting line. Choose an appropriate color for this line. Some scenic artists use straight black; others use dark maroon, purple or brown lake; even green may be used (Ashworth 1952, 32).

Lining, such as the molding in the saloon, usually required a straight edge and a steady hand. The cornice in the sheet drop was another form of lining that involved bouncing the bristles on the drop to simulate architectural detail.

Stenciling

Stenciling was used for repeat patterns in three of the drops. Stenciling reduced the work-time of painting the same pattern by hand. The stencil for the front curtain, designed by technical director Judi Lundberg, required an involved process. After completing this drop it was decided that all other stencils must be simple because of the heat and time factor. The investigator designed simple stencils for the saloon and

Figures 27 and 28. Application of lining technique used on saloon drop.

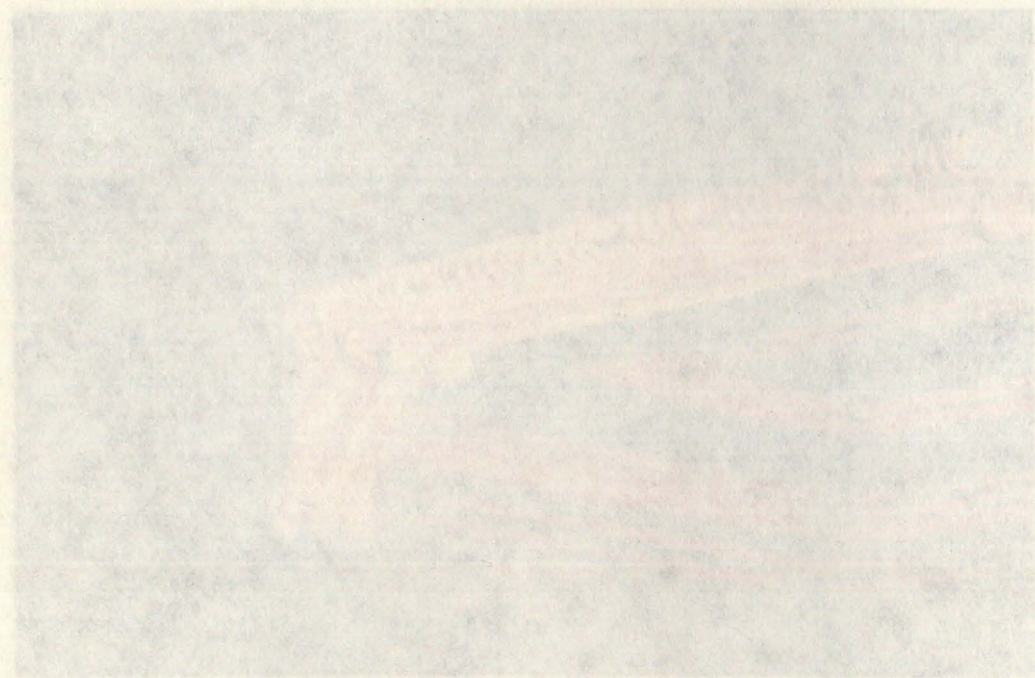


following processes were used in manufacturing

draw, out, and



loggs & clear cut. The wood is stained to
display with a plaster, and the plaster is
the paper (Robert's) style.



cottage drops. The reason for the simplicity was because of scene shop scheduling and conditions. Temperatures in the scene shop, from mid-June until all drops were completed, were in the upper 90s. The week of June 20-27 was unbearable. The temperatures in the scene shop soared to over 115 degrees because of poor ventilation. Schedules were revised and the scene shop closed from 3:00 P.M. until 8:00 P.M. Several crew members were sent home because of heat related illnesses. Crew members were rotated to enable those painting on scaffolding to be replaced by those painting on ground level. The following processes were used in stenciling:

1. draw, cut, and waterproof the stencil,
2. painting a stencil,
3. hand paint necessary areas.

The stencils were drawn on brown Kraft paper in graphite, then inked in marker. The sketch was then laminated on both sides with clear, contact paper. Once laminated, the positive shapes were cut out with an X-Acto knife, leaving a negative shaped space. According to Bradford Ashworth,

Stencil paper is obtained by the yard and is forty inches wide. A substitute stencil paper can be made by oiling heavy paper with a solution of turpentine and oil. After the paper is dry, the pattern is drawn and cut out with a stencil knife on glass to insure a clear cut. The paper is then shellacked or sprayed with a plastic solution to further waterproof the paper (Ashworth 1952, 30).

the scene shop, from mid-June until all drops were completed, were in the upper 90s. The week of June 20-27 was unbearable. The temperatures in the scene shop soared to over 115 degrees because of poor ventilation. Schedules were revised and the scene shop closed from 3:00 P.M. until 8:00 P.M. Several crew members were sent home because of heat related illnesses. Crew members were rotated to enable those painting on scaffolding to be replaced by those painting on ground level. The following processes were used in stenciling:

1. draw, cut, and waterproof the stencil,
2. painting a stencil,
3. hand paint necessary areas.

The stencils were drawn on brown kraft paper in graphite, then inked in marker. The sketch was then laminated on both sides with clear, contact paper. Once laminated, the positive shapes were cut out with an X-Acto knife, leaving a negative shaped space. According to Bradford Ashworth,

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The stencils were applied with a stippling or stencil brush. The stencil color used for the saloon was Vandyke brown. The Vandyke brown laid on top of blue turned into a rich black. The stencil was a staggered pattern so the previously stenciled image was the reference point. To keep the stencil vertical, blue chalk lines were snapped. The lines were snapped in chalk because it was intended that they remain for visual interest.

The stencil used for the cottage was bigger and used register marks. "These marks are used to line up the pattern so that it repeats itself with equal spacing each time. A simple, un-staggered pattern needs one register mark in each corner of the original square that was drawn" (Veaner 1984, 139). The color for the stencil was the concentrated background color (ultra marine blue, chrome green, yellow ochre, and Vandyke brown).

The front curtain and the cottage drops required hand painting. The cottage pattern used two colors for accent lining. The lines were applied using a small water color brush number 5. The front curtain required a much more complex series of painting techniques. Once the stenciling was finished, all areas needed to be hand painted.

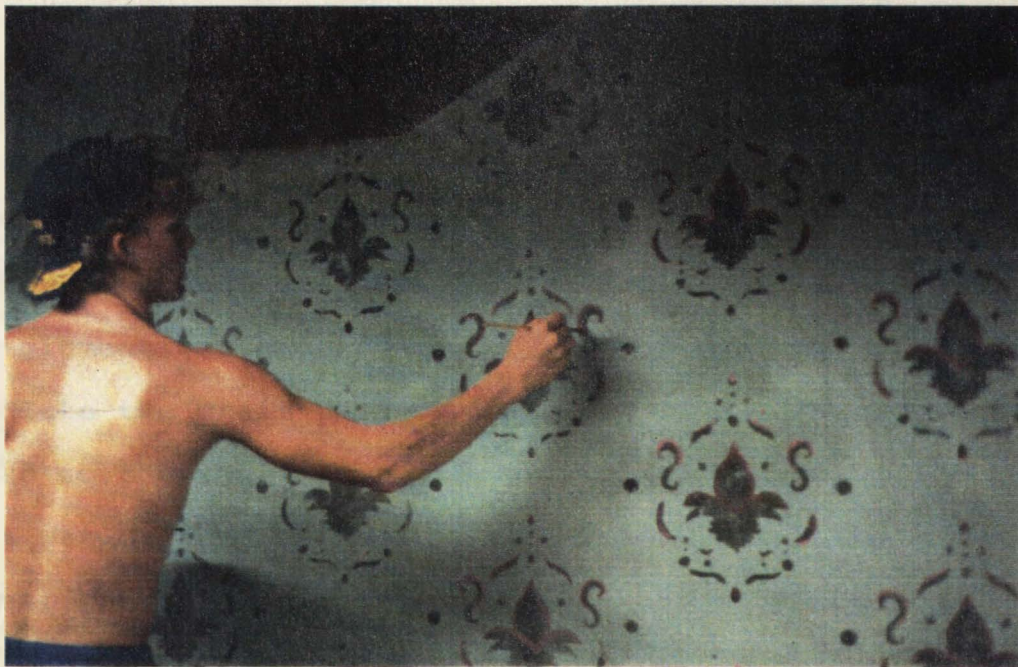
Figure 29. Stippling technique used to transfer stencil onto drop.

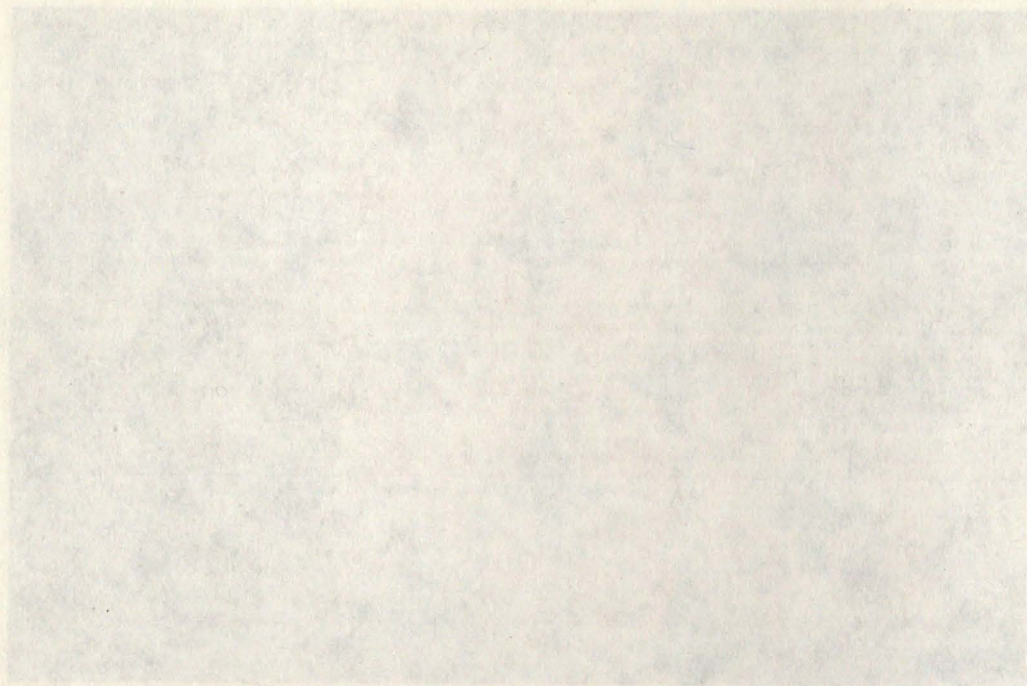
Figure 30. Hand-painting stenciled areas with lay-in colors.



Figure 31. Stenciled saloon drop showing chaulked lines left on for visual interest.

Figure 32. Accent lines are applied to stenciled cottage drop.





Woodgraining Woodgraining

Painting woodgrain can be accomplished in many ways using different types of paint. The Drunkard utilized dry pigment with a working size binder. The techniques may or may not be compatible with other forms of paint. Woodgraining is the technique of simulating woodgrain with paint. Woodgraining can be coarsely weathered or finely polished depending on technique. The following techniques were used for The Drunkard.

1. Drawing and inking,
2. base coat,
3. woodgraining,
4. applying cut lines,
5. highlight and shadow.

The garret was drawn and inked in the same manner as previously discussed. All lines were carefully plotted and checked for perspective.

The base coat for all wood trim was raw sienna. The pigment was brushed on in varying intensities to simulate the grain pattern found in wood. Raw umber was added to the raw sienna for additional variety. The base coat was brushed on using a two inch liner. The investigator chose not to use a larger brush because uniformity of the base was not desired.

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The pigment was brushed on in varying intensities to

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added to the raw sienna for additional variety. The base

coat was brushed on using a two inch liner. The

investigator chose not to use a larger brush because

uniformity of the base was not desired.

Woodgraining was applied to the base coat with a one inch liner. The woodgraining base was raw umber. Vandyke brown and Turkey red were added for the darker tones. Yellow ochre, zinc white, Vandyke brown, and burnt umber were added for the lighter tones. All graining followed the direction of the planks and beams. The investigator found it important to keep graining lines continuous. Visually, the graining pattern mixed the darker tones and lighter tones. Care was taken not to overwork the blending process. If the process was overworked, the graining became muddy when viewed from a distance.

Cut lines, as described by Ashworth under the above discussion of lining, were applied to the woodgraining. Cut lines were painted between the boards using a combination of Vandyke brown and blue pigment. A one inch flat liner was used to apply the cut line. The flat liner was a suitable brush because it could deliver a one-quarter inch to a one inch line depending on whether the brush was held parallel or perpendicular to the object being lined.

The highlights and shadows were painted after establishing an imaginary light source. The scene was to be lit with a lantern resting on a table; therefore, the light source was established coming from the lower left.

Figure 33. Garret drop showing established light source.

Figure 34. Close-up of weathered woodgraining technique used on garret drop.



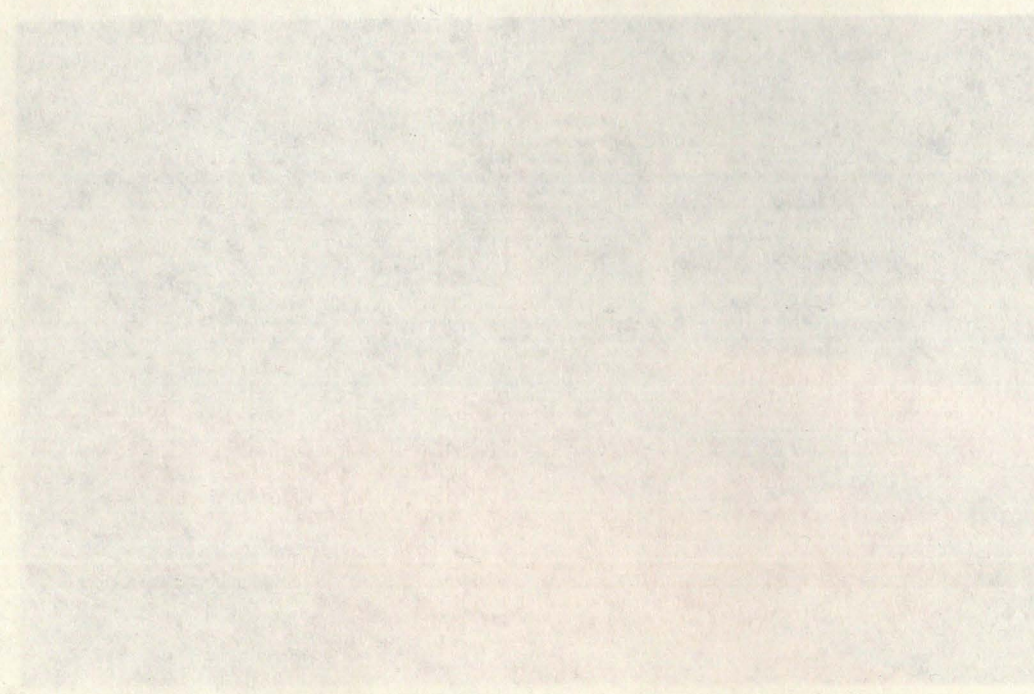
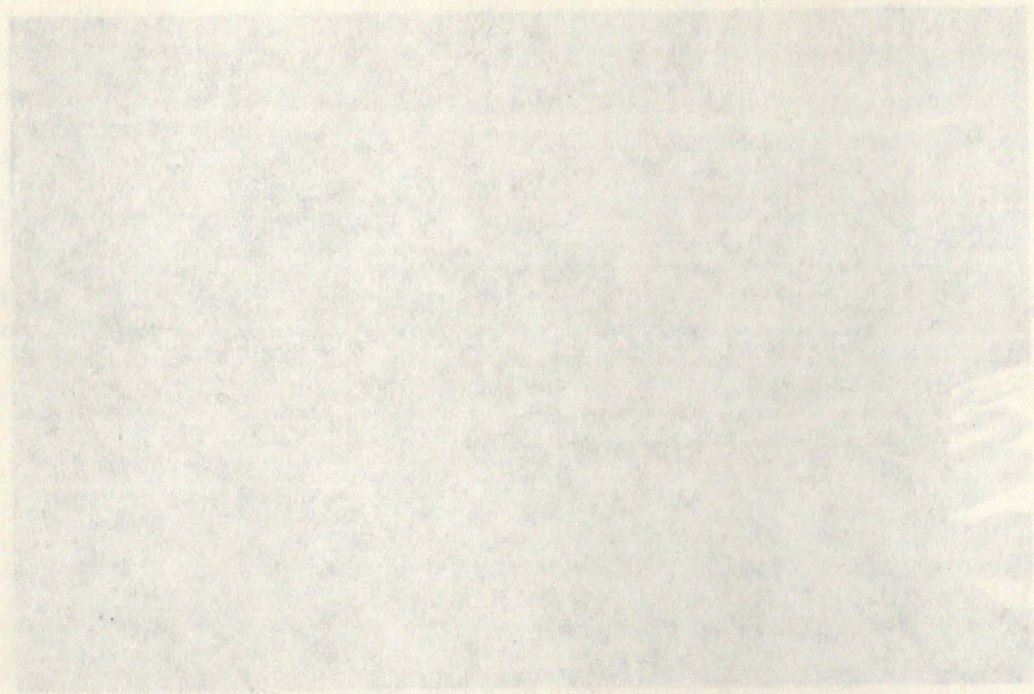
Figure 35. Bar for saloon drop showing established light source.

Figure 36. Close-up of fine, woodgraining technique used for saloon drop



chrome orange, and Turkey red. The colors were applied
with horizontal strokes and a brush.





Highlights were achieved on the beams by adding zinc white to the woodgrain color. Highlights on the door and frame were painted three-fourths of an inch thick to give the doorway dimension. Nails were suggested with the use of Vandyke brown. The corner of the one inch flat liner was quickly dabbed, releasing a small irregular spot of paint. The highlight on the nails was suggested with zinc white dabbed in the same manner.

Blending Skies and Water Areas

The sky in the front curtain was painted with a blend of ultramarine blue, Vandyke brown, lemon yellow, chrome orange, and Turkey red. The colors were applied with horizontal strokes using a three inch liner. The warm and cool colors were blended using a wet blending technique. Wet blending requires the surface to be moist so that the colors bled together. Enough size was used to keep the area moist without runs and drips developing. The sky in the street drop used the same colors but in different concentrations. Clouds were added to this drop using Vandyke brown and blue.

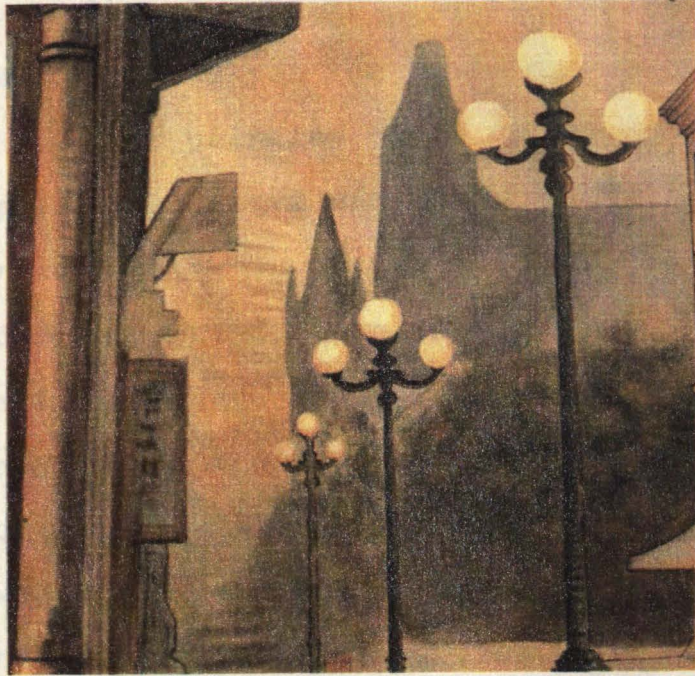
Figure 37. Close-up of water with tall grasses brushed over to establish depth.

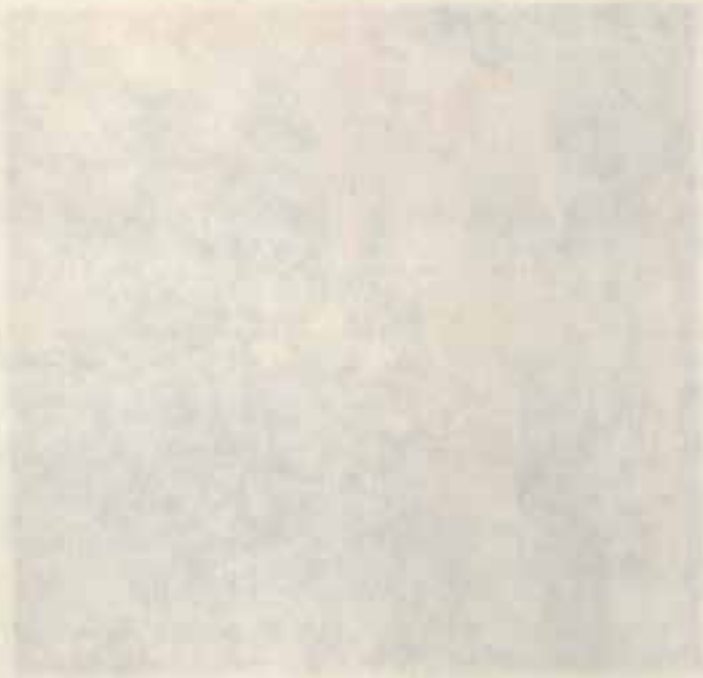
Figure 38. Wet blend technique used for sky and water for front curtain.



Figure 39. Street drop depicting midday sunlight through hazy cloud cover.

Figure 40. Close-up of hazy cloud cover.





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Water along the banks, in the front curtain's mural, resembled the sky. The painting colors and techniques used for painting water were the same as the sky techniques. The water was calm, so the brush strokes were fairly straight.

Reflections of foliage were painted on the water using a one inch foliage brush. The stroke was begun at the water's edge and then pulled vertically toward the main body of water, while gradually lifting the brush. The brush was rinsed and shaken before dry brushing the same area horizontally. The combined styles gave the reflection a glassy look.

Pointillage

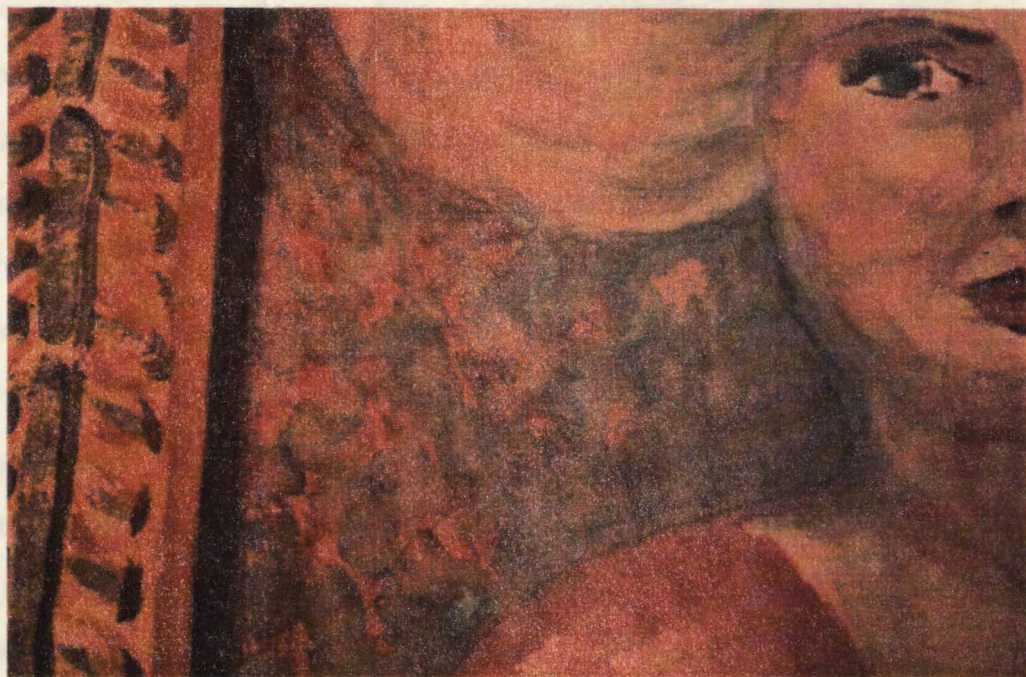
Pointillage was employed in the saloon painting and bush stage units. "Pointillage, as the name implies, is achieved with a small brush by dabbing small spots of color on the background. The French Impressionists explored all possibilities of this technique" (Ashworth 1952, 26). The saloon painting utilized Turkey red, ultramarine blue, chrome green, lemon yellow, burnt umber, yellow ochre.

Summary

Organization of the materials for drop painting was a major undertaking because the scene shop was not

Figure 41. Close-up of pointillage techniqued used on saloon drop.

Figure 42. Close-up of pointillage techniqued on bush.



1-by-4s, 2-by-4s, and 1/2-inch plywood. The tables were set aside until they were needed. Unbleached muslin was chosen for the surface material. The muslin was cut and sewn carefully; any imperfections in the stitching would require the drop to be resewn. The muslin drop was hung and stretched on the paint frame. Special attention was given to the stretching process because a drop that is stretched crooked and then painted will return to its normal weave, making all painting on the drop appear crooked. The drop was then sized with brushes and sponges. Sponges sped up the process of sizing. Because of sagging, the drop was re-stretched along the bottom rail and side stiles. When the sizing was dry the image was transferred using an opaque projector for prints and a carousel slide projector for slides. The image was drawn with no. 2 graphite pencils and charcoal sticks. All lines were checked for accuracy then inked in brown marker. The drop was then primed for painting. Palette tables were stocked with mixed pigment, size, and clean water.

Several painting techniques were discussed and documented. The techniques included instruction for painting drapery, marble, foliage, plaster and stone, lining, stenciling, woodgraining, pointillage, and blending skies and bodies of water.

CHAPTER V

MOUNTING THE PRODUCTION

Rigging Scenery for the Production

Rigging involves the use of fly lines above the stage for moving scenery. The rigging process began when the drop was removed from the frame and culminated when the drop could be rolled on stage. In addition to the drops, wing and border proscenium scenery also required rigging. The Drunkard was rigged in two different theatres; both are covered in this chapter.

Preparing the Drops for Rigging

When a drop was finished the muslin was pulled away from the bottom and sides of the frame. All staples remaining in the muslin after being pulled from the frame were removed. The proper size roller was laid on the floor underneath the drop. The platform and ladders that were used to hang the drop were moved one foot from the drop, allowing enough room for the drop to be wrapped onto the roller. The drop was trimmed to its proper length by starting a cut on the bottom and tearing the fabric. Because muslin is woven straight, the tear also remained straight. Beginning at the bottom, the drop was

wrapped onto the roller. Once the drop reached the top stile of the frame, staples holding the drop were pulled loose. The drop, then wrapped on a roller, was transported to Doner Auditorium by means of a large, flatbed truck.

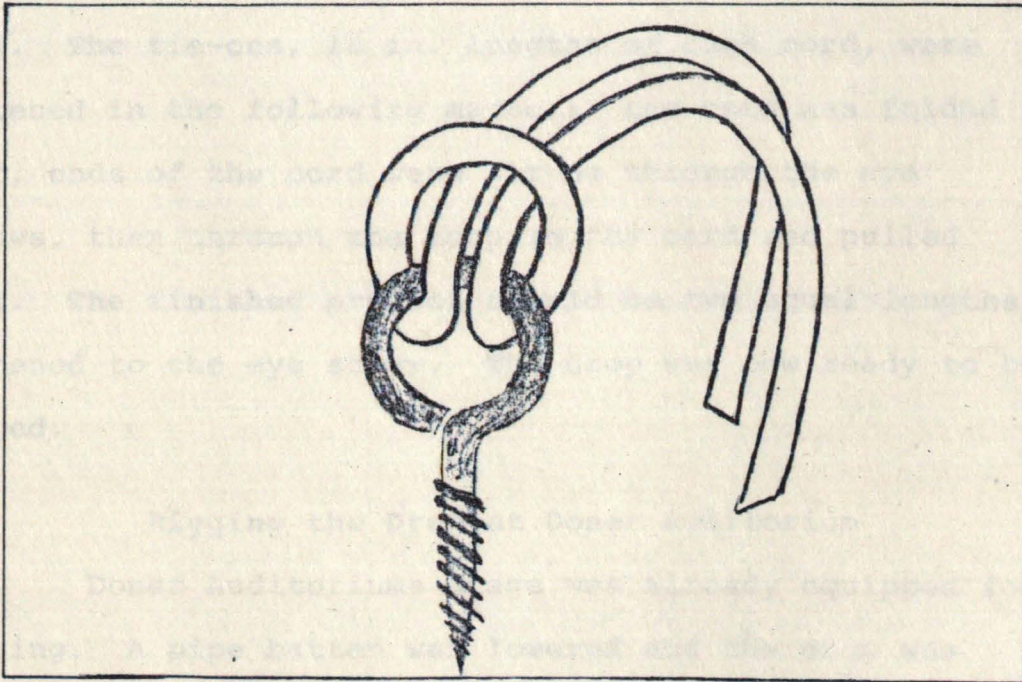
The following materials, hardware and tools were required for the preparation of the drops for rigging:

1. 1-by-4 in. white pine and skill saw,
2. no. 6 box nails and hammer,
3. 7/16-by-15/8-in. eye screws and drill with 1/8 in. wood bit,
4. 1/4 in. staples and staple gun,
5. 7/32 in. clothesline cord or sash cord.

All drops were prepared using the same guidelines. The cottage drop, twenty-one feet long, will be used as an example of the preparation process. The lengths of 1-by-4s were 2 ft. greater than the length of the drop. (The extra 2 ft. were needed for the attachment of pulleys that will be described later in the chapter.) The drop was unrolled, exposing 3 ft. for work space. Two, 1-by-4s, 11 ft. 6 in. long pieces of lumber were laid end to end on the top salvage end of the drop. The three inches of salvage left exposed was wrapped onto the boards and stapled every six to eight inches. The three inch salvage was not consistent; and when corrected,

Figure 43. Muslin sandwiched between 1-by-4s.

Figure 44. Slip knot used to fasten tie-ons to eye screws.



tied quickly, and untied by yanking one end sharply across the knot" (Wolfe 1977, 194). As the batten was raised, the drop was allowed to unwrap from the roller. The batten raised to its proper height was secured. The bottom of the drop was centered on the roller, wrapped and stapled.

The drop, now hanging in place, required pulleys and hempline or rope for the drop to become a roll drop. One-quarter inch holes were drilled 3 in. from the ends of the wooden batten for the no. 9 wire that fastened the double pulleys. The pulleys were secured directly underneath the 1-by-4s, parallel with the drop.

Rope for the pulleys was estimated according to the length of the drop. The drops required separate ropes for each end. The rope lengths were calculated and cut according to the following formula:

1. height of drop times three
2. height of drop times three plus width of drop.

The rope not containing the length measurement was strung through the stage left pulley and fastened to the roller. The remaining rope was also strung through the stage left pulley, then across the length of the drop through the stage right pulley, directing it down to the

roller where it was fastened. The ropes were fastened to the roller with 1/2 in. staples and no. 6 box nails.

The drop was hand rolled up to wooden batten, not allowing the rope to wrap itself on the roller. Once the drop was rolled up, the rope that was fastened to the roller was wrapped twice around the roller. As the roller was lowered to the floor, it wrapped the rope onto the roller. The drop could now be raised and lowered by pulling down on the dangling ends. The drop was checked for proper tracking or recoiling by raising and lowering it. Adjustments in tracking were made by moving the pulleys closer or farther from the drop. All drops were rigged in the same manner.

Rigging Wing and Border Prosceniums

The border prosceniums were designed to be broken down into three parts because of their forty-one foot length. For production, the three sections were hinged together on the back using three inch butt hinges. There were two hinges per join. Once the forty-one foot border was hinged together, two, two foot 1-by-4s were added across the top and rails of the flats being joined. The assembled border was held upright while the eye screws that would suspend the unit were added. Five eye screws were spaced evenly along the top edge of the border. Cable clamps and 1/16 in. cable were used to suspend the

border. With the border now in place the wing flats could be secured. The wing flats were placed behind and nailed to the borders. To eliminate the problem of swaying in the proscenium wing and border, the wing was secured to the floor. All prosceniums were rigged using the same guidelines.

Transportation of Scenery

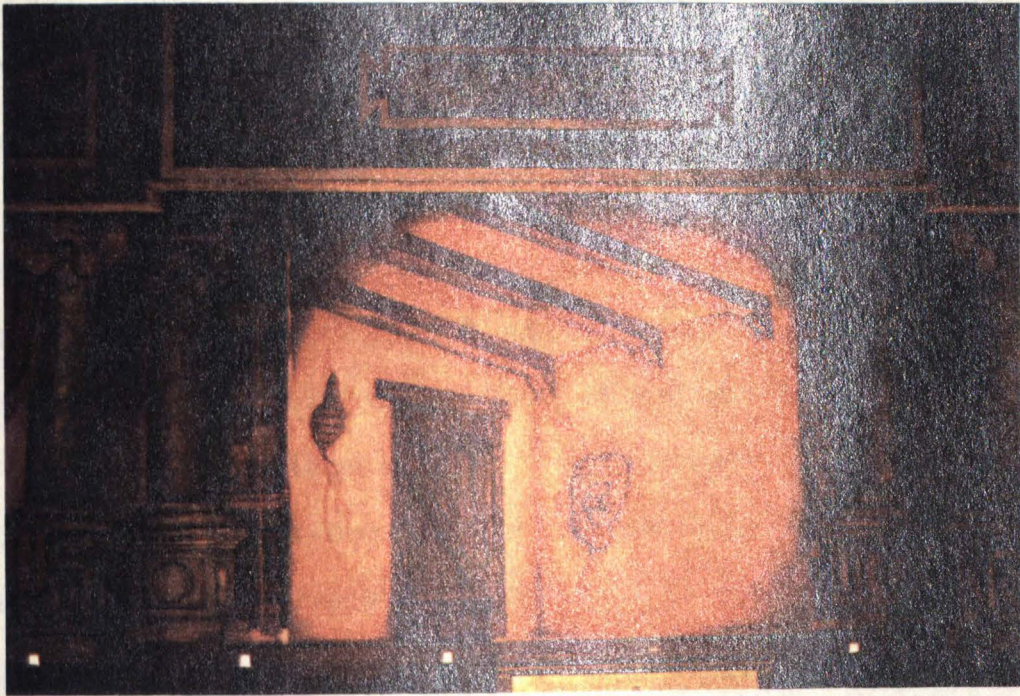
The prosceniums were taken down, or struck, in reverse of the set-up process. All nails or protruding objects were blunted or removed. The drops were left in the raised position while the ropes, used to raise and lower the drop, were wrapped around the roller's end. The drops now secured from unrolling were lowered onto 5-by-25 ft., 3.5 mil. poly plastic sheeting. The drops were untied from the batten, wrapped in plastic, and labeled by scene. The plastic protected the drops from being soiled and from getting wet which would cause a moire water spot. The scenery was loaded into an enclosed twenty-four foot truck. The twenty-five foot drops were placed at an angle and the door, which could not fully close, was tied shut.

Rigging the Drops at the Prairie Village Opera House

The Prairie Village Opera House is an opera house in name only. The present structure is void of the

Figure 45. Garret drop rolled down without masking flats.

Figure 46. Garret drop, in foreground, rolled up before being lowered onto plastic for transportation, and woods drop in background.



original stage, dressing rooms, storage rooms, and most critical fly space above the stage. "The most dramatic change in the physical appearance of the building took place in April 1943. The entire back, including the three-story fly space and stage area, was removed" (Zimmer 1981, 57). The lack of fly space presented a major problem for the rigging of the drops.

The investigator, along with technical director Judi Lundberg, collaborated on the decision to use 13/16-by-27/8-in. eye screws mounted in the ceiling to suspend the battens on which the drops would be tied. Five eye screws were needed per fly line. Using a 19/64 in. bit, pilot holes were drilled into the ceiling for the eye screws. Because the building had deteriorating ceiling beams, it was necessary to drill several holes in the same area until an eye screw would take hold in the ceiling. Each eye screw was tested by exerting approximately 140 pounds of tension. Screws that pulled out were redrilled. Twelve fly lines, requiring 60 eye screws, for proscenium, drops, and strip lights were plotted according to the ground plan specifications. Once the eye screws were in place, six foot sections of 1/16 in. cable were clamped onto each eye screw.

In an effort to minimize costs, an alternative to pipe battens for supporting scenery was sought. It was decided 2 in. by 4 in. white pine would be used in the place of pipe. The 2 in. by 4 in. white pine was joined end to end to allow proper length. The 2 in. by 4 in. were fastened together with 36 in. by 12 in. by 1/2 in. plywood glued and stapled on both sides of the board. The completed 2 in. by 4 in. batten was moved into place and fitted with eye screws on the 2 in. side. The eye screws in the 2 in. by 4 in. were placed directly below the eye screws in the ceiling. The appropriate drop was tied onto the 2 in. by 4 in. and was lifted into place. The project of lifting the drop and batten required three technicians on step ladders. The 6 ft. lengths of cable were threaded through the eye screws and secured using cable clamps. This method of hanging scenery was very time consuming. All drops, prosceniums, and strip lights were hung in this manner.

The number of crew members needed for rigging was small because of the lack of space once three ladders were in place. The set-up of The Drunkard in the Prairie Village Opera House required the use of ten technicians. The set-up began at 11:00 P.M., July 15 and was finished at 9:00 A.M. July 16. Three crew members who were cast

members of The Drunkard left the Opera House at 4:00 A.M., July 16.

Summary

Doner Auditorium, with its already established rigging, required only the addition of the pulley hardware. The Opera House, on the other hand, required the special set-up of twelve fly lines in order to hang the drops. The ten hour set-up in the Opera House was hampered by a ceiling that could not hold eye screws, and the large number of lines to hang. Nonetheless, with careful transportation (wrapped in plastic sheeting) and the installation of white pine battens at Prairie Village, the drop scenery accommodated both the limits of the Opera House as well as the fully equipped Doner Auditorium.

CHAPTER VI

EVALUATION OF THE CONSTRUCTION AND USE OF THE DROPS

Designer

Roll drop scenery proved to be efficient for the mounting of The Drunkard. The production required seven different drops which were painted by college students who were previously untrained, unskilled painters. The drops were being painted while work was in progress on three sets for Bus Stop, The Nerd, and the musical, Grease. Crew members were shifted to whatever area was necessary. A typical day for a crew member might include: welding the car for Grease, hanging lights for the upcoming production, or painting a drop. Crew members were allowed work on different projects to avoid monotonous hours of painting.

Four drops were chosen for reproduction from the Theatre Museum's collection in Mt. Pleasant, Iowa. The original street and front curtain drops were in much better condition than the front room and woods' drops. Many of the painting techniques for the front room and woods' drops were unclear due to fading and damage and

had to be assumed. The assumptions were not always correct. Not having quality originals meant experimentation in painting techniques and additional time spent in evaluating other drops for the proper technique.

The two drops based on designs by Charles H. Stewart and Company were an excellent example of what perspective can do for scenery. The photocopies provided a good line drawing basis for the drops. These drops had painted perspective ceilings which greatly increased the depth-of-field.

The cottage drop, designed by the investigator, had perspective flaws. The wall of the cottage did not follow the angle of the hutch. The flaw was discovered after inking but was not able to be changed because of time commitment.

The decision to paint the drops against the wall was wise. If the other shows were not using the shop space, the wings and borders were spread out on the floor and painted. The heat and the lack of adequate ventilation was a severe set-back. A crew member on scaffolding was fatigued after only one to two hours of painting. Breaks were stretched from ten to twenty minutes. Students were given guidance in color mixing and application of techniques but the actual painting

required individual creative talent. Students were not just painting a solid color that would be textured by someone else, they were part of the creative process. The novelty of scene painting ended after approximately three weeks, and some scene painters lost enthusiasm. This may not have occurred or the phenomenon been as severe had the work place been well-ventilated and air-conditioned as were the other work areas. Despite the problems, the unskilled and untrained crew were readily doing effective work and succeeded, a few even excelled, at scene painting.

The drops were visually more effective than the investigator had hoped. Aesthetically they captured the romanticism of the play. Visually, the perspective was convincing. The garret drop reached its goal of being oppressive, and the bar eliminated the problem of congestion by appearing to recede farther back.

Physically, the drops required little or no maintenance. During one performance, at Doner, the ropes that roll the drop slipped off the roller and the entire fly was flown out. After the show the drop was rewrapped and checked for proper tracking. During the rigging process, if the ropes continually slipped off the roller, the pulley was adjusted toward the drop. Had the problem occurred in the opera house, a ladder would have been

necessary to remedy the situation. Once carefully rigged and adjusted there, this did not occur.

The actors were excited about performing in the historical setting and style. Because there were no doors, windows, or numerous props, the actors were in the forefront, performing in the declamatory fashion of the period. Many actors enjoyed this presentational form. Actress Becky Tlustos said, "I enjoyed performing in front of the backdrops because there were few set items and the drops were framed by prosceniums, which allowed me to perform for and with the audience. The drops on rollers provided me with reinforcement for this style of theatre" (Tlustos 1988).

Adjustments that would be made if the project were to be repeated primarily involve the number of drops to be painted. The scene shop, designed for set construction, was an excellent space for scene building but not drop painting. The scaffolding needed constant repair because the supports were stressed while shifting them to reach all areas of the drop. The large number of painted scenery required continuous supervision. Once a drop was finished it was removed from the paint frame and another drop attached. There was no time for the students to study their applied techniques. Other adjustments would be minor alterations of color and

technique, but, generally experimentation answered questions arising from the dull or damaged originals.

Director

The comments from director, C. E. Denton are as follows:

As the director of The Drunkard I hoped that the scenery would help create an environment for the play, identify the various scenes, establish a proper mood for each scene, and finally, give a historical sense to the production. I also hoped that all this could be accomplished without distracting the audience's attention from the actors or the story.

It seems to me that Desi Roybal was able to meet all of my expectations and to share considerably in the success of the total production.

As the public came into the theatre they could not have missed noticing the large marbleized false proscenium arch filling the outer limits of the stage both in the Doner at South Dakota State University and at Prairie Village in the Opera House. Together with the front drop this rather overwhelming sight produced a temple like quality to the stage picture, and, I believe, gave the audience a sense of the play's time and place in history. So, before the play had even begun some of the environment and period for this romantic melodrama had been created.

There are seven different scene locations within The Drunkard. As the color plates will show all seven scenes within the play were visibly quite different from one another. Clearly, these designs establish the location of each scene. Yet the drawing style, the pigments chosen, and the brush techniques employed had a cohesiveness which brought the entire production together.

The Drunkard is a melodrama strongly tied to the romantic traditions. It is filled with asides to the audience and lines of dialogue characteristic of the presentational theatre. The actors are always reminding the audience that they are being told a story, not that this story is really happening. It seems to me that Roybal's designs worked in concert with the script as these pictures were telling stories about locations rather than reflecting the reality of the locations.

Another characteristic of the romantic theatre is its numerous short scenes. The Drunkard uses seven locations in fifteen different scenes. Time spent changing scenery between scenes can have a disastrous effect upon a production. By employing roll drops, which, of course, is historically accurate for this play, Desi Roybal allowed the show to move as rapidly as it could be acted.

In summary, I feel that this production of The Drunkard met all the basic scenic requirements I had in mind, with added artistic embellishments that would have pleased the authors as well.

Summary

The variables for painting scenery ranged from personnel available to the properties of pigment and binder. Skilled scene painters emerged from technicians untrained in scene painting or the visual arts because they followed directions and were allowed to experiment.

Great care and ingenuity in the painting process was required when photographs of the original, faded or damaged drops were used. The drops based on catalog examples and original designs worked well and only minor painting techniques could have been changed.

The drops worked well, with few problems and little need for maintenance, concerning striking, transporting, rigging, and producing on two stages. They provided an appropriate and effective environment for the presentational style of the production and were apparently readily accepted and enjoyed by directors, actors, and audiences.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Summary

In this study research was conducted concerning 19th century wing and drop painting styles to assist the investigator to produce The Drunkard as authentically as possible.

The first step was to determine if any previous studies were completed regarding 19th century wing and drop painting styles and their implementation in a period drama. A review of specific guides revealed no duplicate studies. The investigator located several sources that were beneficial for background information of the painting styles and techniques which could be useful with soft scenery.

Because of limited written material the investigator used personal interviews with retired, touring professionals and gained experience with painting techniques learned through observation and work with Dr. Lance Brockman and Janet Ryger, of the University of Minnesota, who were involved in painting soft scenery at the time of the study.

The ideas presented by the three individuals interviewed helped to establish a working knowledge of how the scenery was used. It was discovered that the touring professionals or troupers were exceptional performers, managers, and technicians.

The investigator researched and photographed drops at the Theatre Museum, Mt. Pleasant, Iowa, in an effort to gain bases for duplication and usage for The Drunkard. Four drops were identified as useful bases for scenes in the production. Catalogues that rent soft scenery were searched to find bases for the remaining scenes. Two drops were found in the Charles H. Stewart and Company catalogue. The photocopies of these two drops were used as a basic design for the saloon and garret. The cottage drop, proscenium borders and extension of the cottage flat were designed by the investigator.

Work drawing specifications were given for the items needing to be built. The rollers for the drops provided the investigator with the challenge of building inexpensive models. Experimentation led the investigator to a successful and inexpensive product.

It was necessary to gather a variety of brushes, paints, binders, and layout tools for painting the roll drop scenery. Using Bradford Ashworth, Daniel Veaner and

Lance Brockman as experts in the field of scene painting, the investigator was able to paint successfully the seven drops, proscenium, and stage properties for The Drunkard.

The mounting of the production in two different theatres, one having fly rigging and the other having none, offered the investigator the opportunity to evaluate the consequences and time requirement for such an undertaking. Productions in both theatres, once rigged, operated equally as well.

The investigator/designer and director agreed the scenery provided an authentic background for the actors and quick, easy scene changes for fluidity of the production. The drops, on rollers and framed by the prosceniums, offered actors reinforcement for this style of theatre.

Conclusions

The Drunkard was a production that offered a great deal of self-awareness. Successful scene painting techniques emerged from individuals who had little artistic background but were willing to try. Others found an element in the painting process and turned it into a craft. Some painters might not have fully understood what they were doing but as long as they followed the same style and directions, the job was completed.

Crew members were given time to experiment with techniques unless the drop was scheduled for completion on an established day. A crew member who discovered a technique that worked, showed others, making everyone's style consistent. It would not have been possible to complete seven drops, three prosceniums, and stage properties using only those individuals with painting skills. The scenery could not have been as successful without the combined efforts of the entire company.

Using the above described techniques, these conclusion can be drawn.

1. Effective wings and drops can be achieved using a largely inexperienced crew.
2. Crew members, when allowed to experiment, can develop valuable techniques.

The number of hours spent on each drop was a progressive indication of the time needed to paint a drop. High temperatures in the scene shop were a major factor in productivity. The number of painters working on a drop averaged between six and nine. The hours listed below are not actual because schedules were altered, the scene shop was closed down because of heat, new painters were always being trained. The number of days are factual.

<u>Scenery</u>	<u>Days</u>	<u>Man Hours</u>
Borders	45	234
Wings	28	356
Garret	8	168
Spindle	5	250
Woods	2	218
Street	4	280
Front Curtain	3 1/2	225
Saloon	4	230
Cottage	2 1/2	180
Bar	3	16
Bush	2	9
Cottage Flat	2	8
Garret Flats	2	12
Total man hours in painting		<u>2176</u>

Based on approximate figures supplied by purchasing agents for Prairie Repertory Theatre, the financial requirements for The Drunkard were:

Set	\$1,550.00
Costumes	670.00
Props	60.00
Lights	50.00
	<u>\$2,330.00</u>

This cost does not reflect the 225 yards of muslin purchased at bulk rate for \$3.50 per yard. The total for muslin was \$787.50. The total technical production costs were \$3,117.50.

The following conclusions can be drawn relating to cost versus time comparisons and the variables therein.

1. Working conditions and facilities available greatly affected productivity of workers.

2. Teaching painting techniques to new painters affected the length of time required for completion of the drops.

3. Scene painters completed drops in less time as they progressed.

4. Producing seven drops, three prosceniums, and stage properties can be cost effective if time permits.

5. In the production itself, considerable time is saved in the accomplishment of numerous scene changes with ease and fluidity.

Recommendations for Further Study

The intent of this study was to provide a working knowledge of wing and drop scenery. The research involved in this study is believed to be the first investigation that encompasses all aspects of roll drop scenery that include: Designing, Painting, Transporting, Rigging, and Producing.

The materials, techniques, and conclusions in this study do not apply to all types of scene painting. There are many forms of paints, binders, fabrics, tools, and styles that can be used. Further investigation of these materials would help a designer/scene painter understand the wide range of possibilities in the use of soft scenery. The possibilities of modern play application are great. Musicals such as The Music Man,

My Fair Lady, and Oklahoma are just a few plays that could utilize roll drop settings. Roll drop painting is a dying art form. With renewed interest in this area, designers and technical directors can establish and maintain valuable links with the past which can provide useful tools for the present and the future.

APPENDIX A
PHOTOGRAPHS, PHOTOCOPIES AND
ORIGINAL DESIGNS

Figure 47. Front door fancy drop from Theatre Museum,
Mt. Pleasant, Iowa.

Figure 48. Street drop from Theatre Museum, Mt.
Pleasant, Iowa.

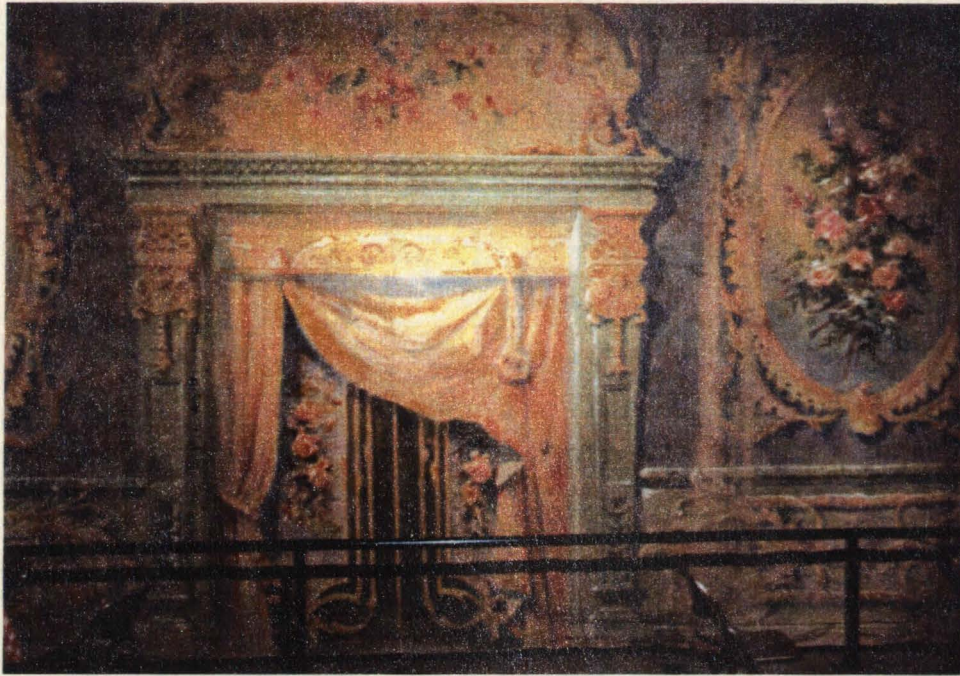


Figure 49. Front curtain drop from Theatre Museum, Mt. Pleasant, Iowa.

Figure 50. Woods drop from Theatre Museum, Mt. Pleasant, Iowa.

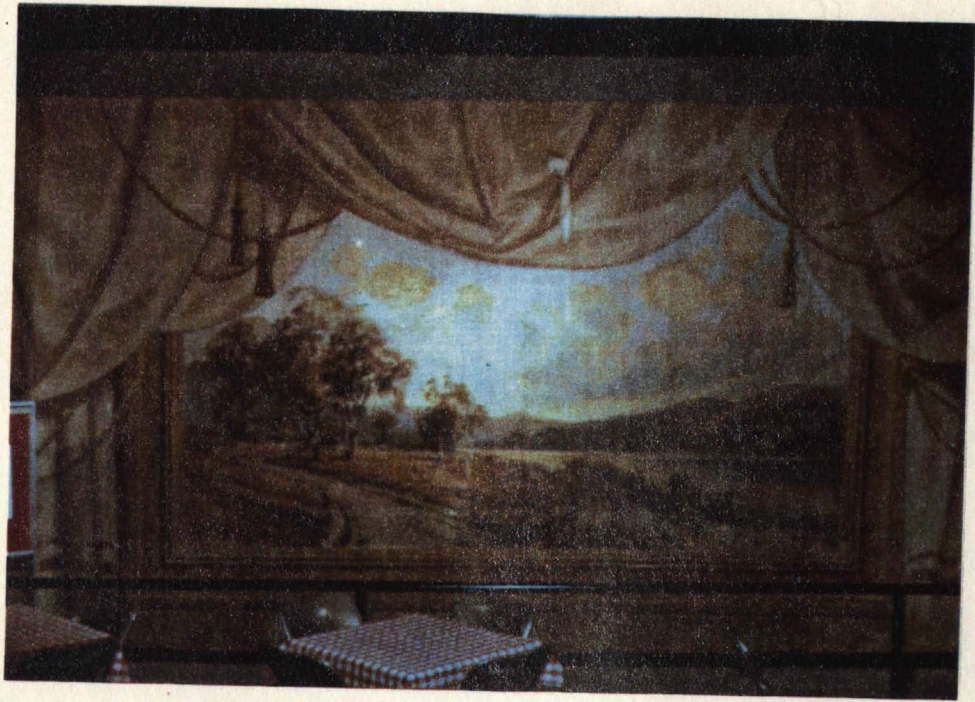


Figure 51. Photograph of proscenium wing from Theatre Museum, Mt. Pleasant, Iowa.

Figure 52. Water color rendering by designer/investigator.

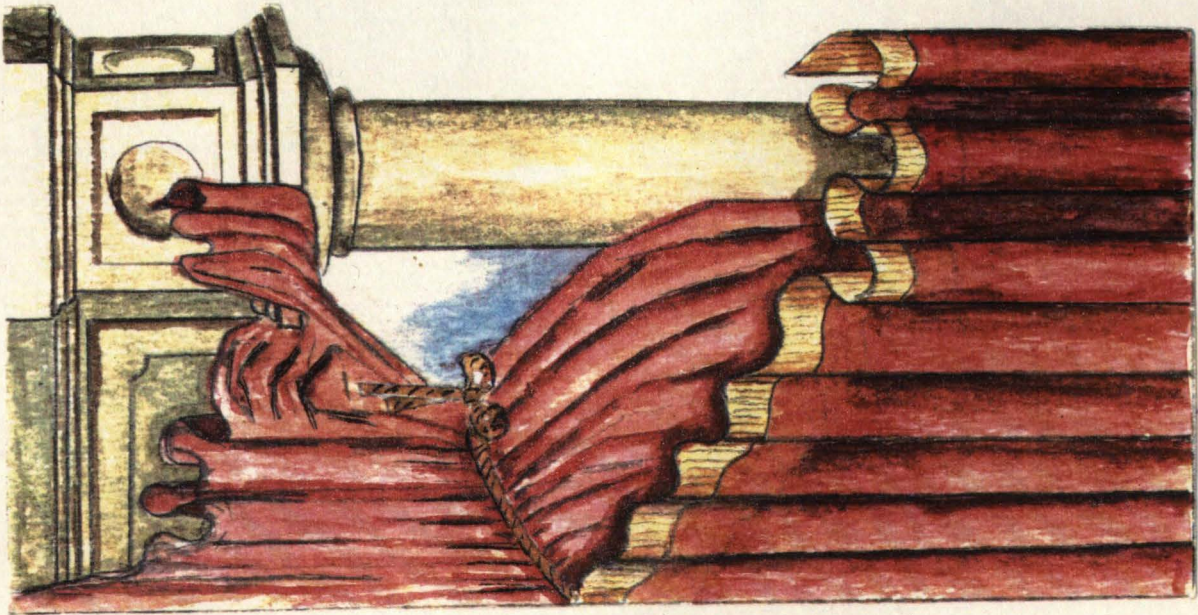


Figure 53. Design of Garret drop designed by Charles H. Stewart and Co.,
Sommerville, Massachusetts.



Figure 54. Saloon drop designed by Charles H. Stewart and Co., Sommerville, Massachusetts.

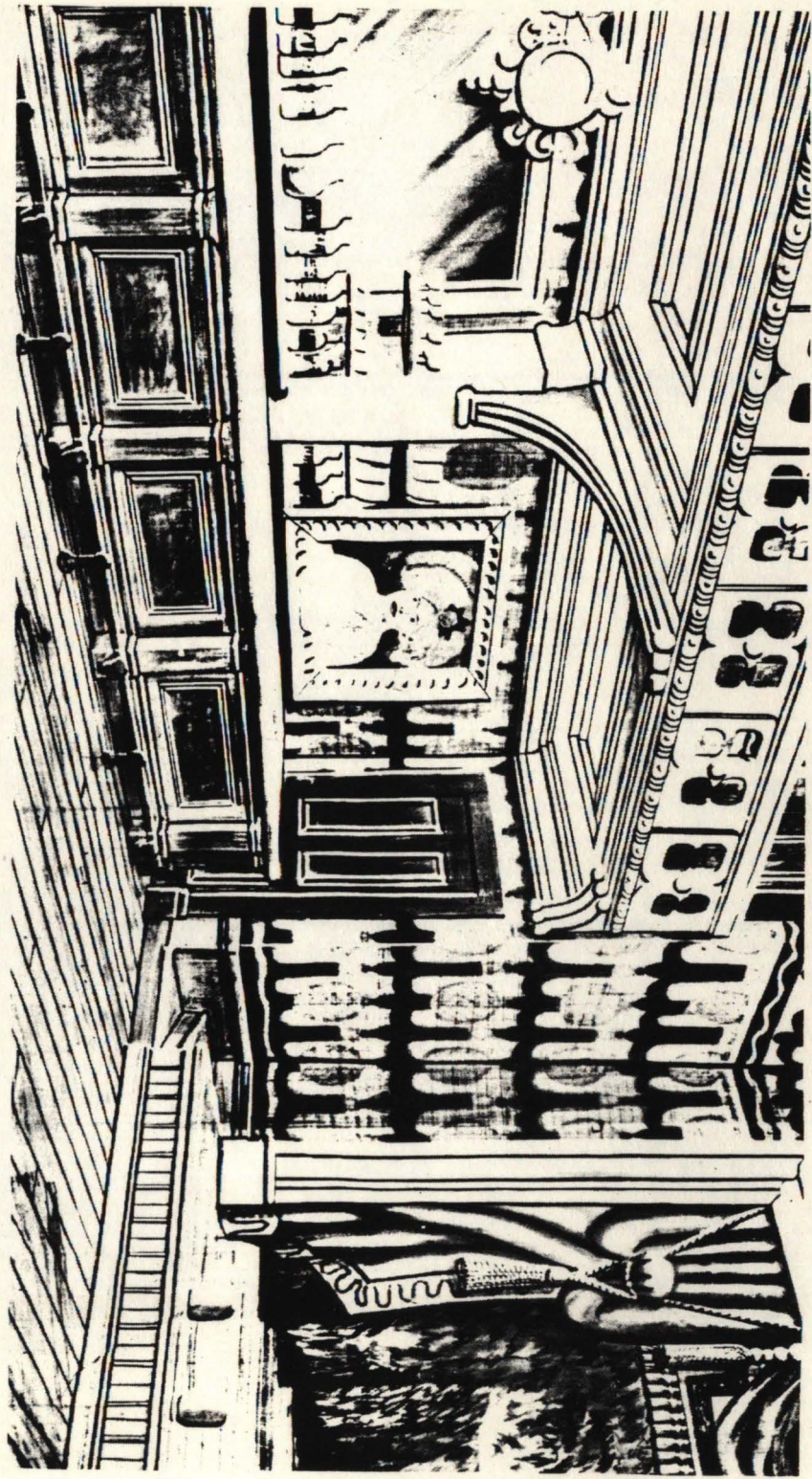


Figure 55. Cottage drop designed by designer/investigator.



Figure 56. Proscenium borders designed by designer/investigator.



Figure 51.
... ..

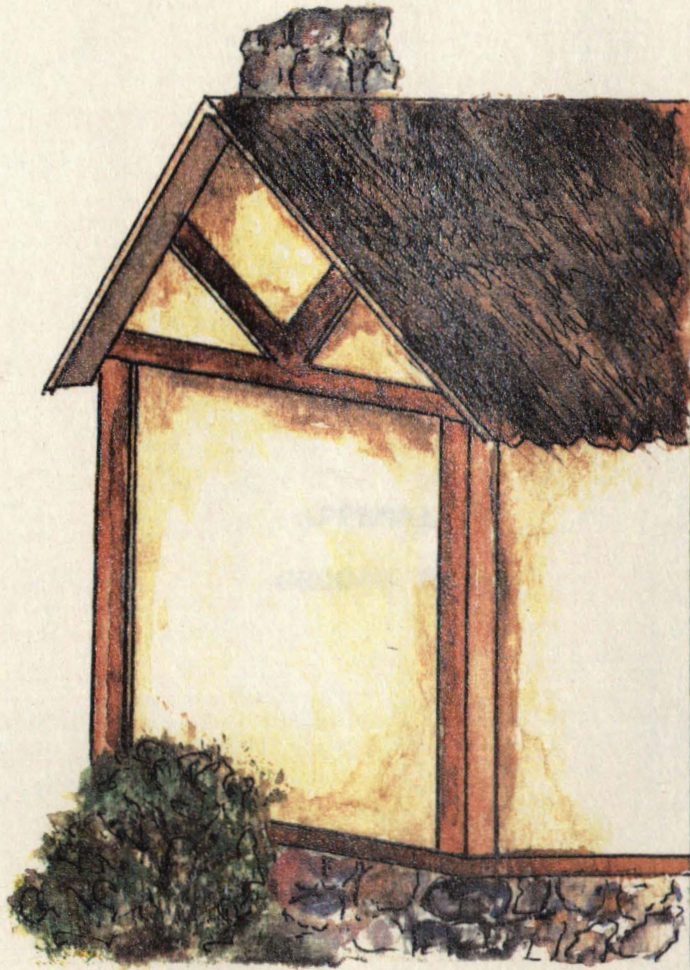


Figure 57. Exterior of cottage designed by designer/investigator.

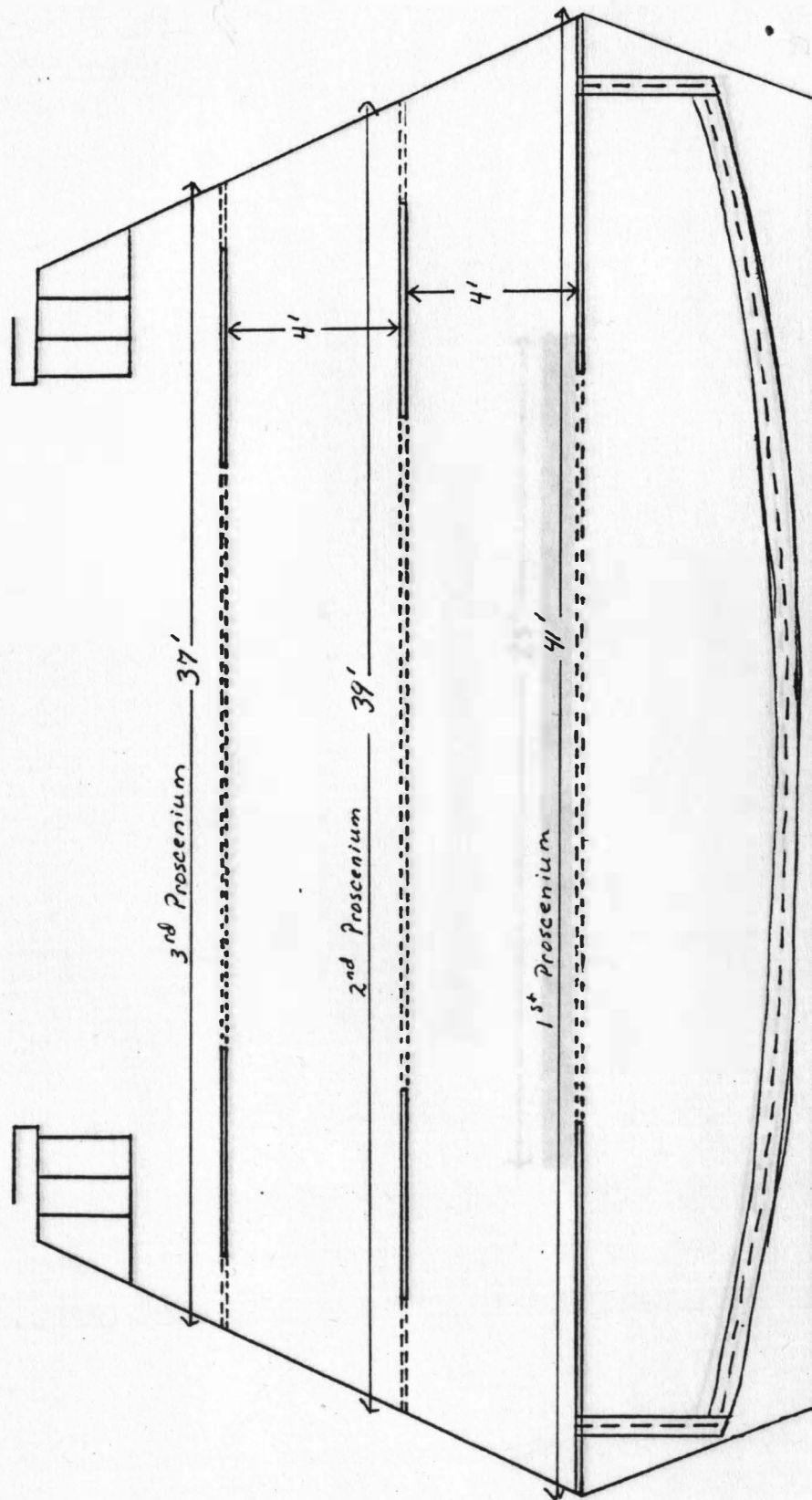


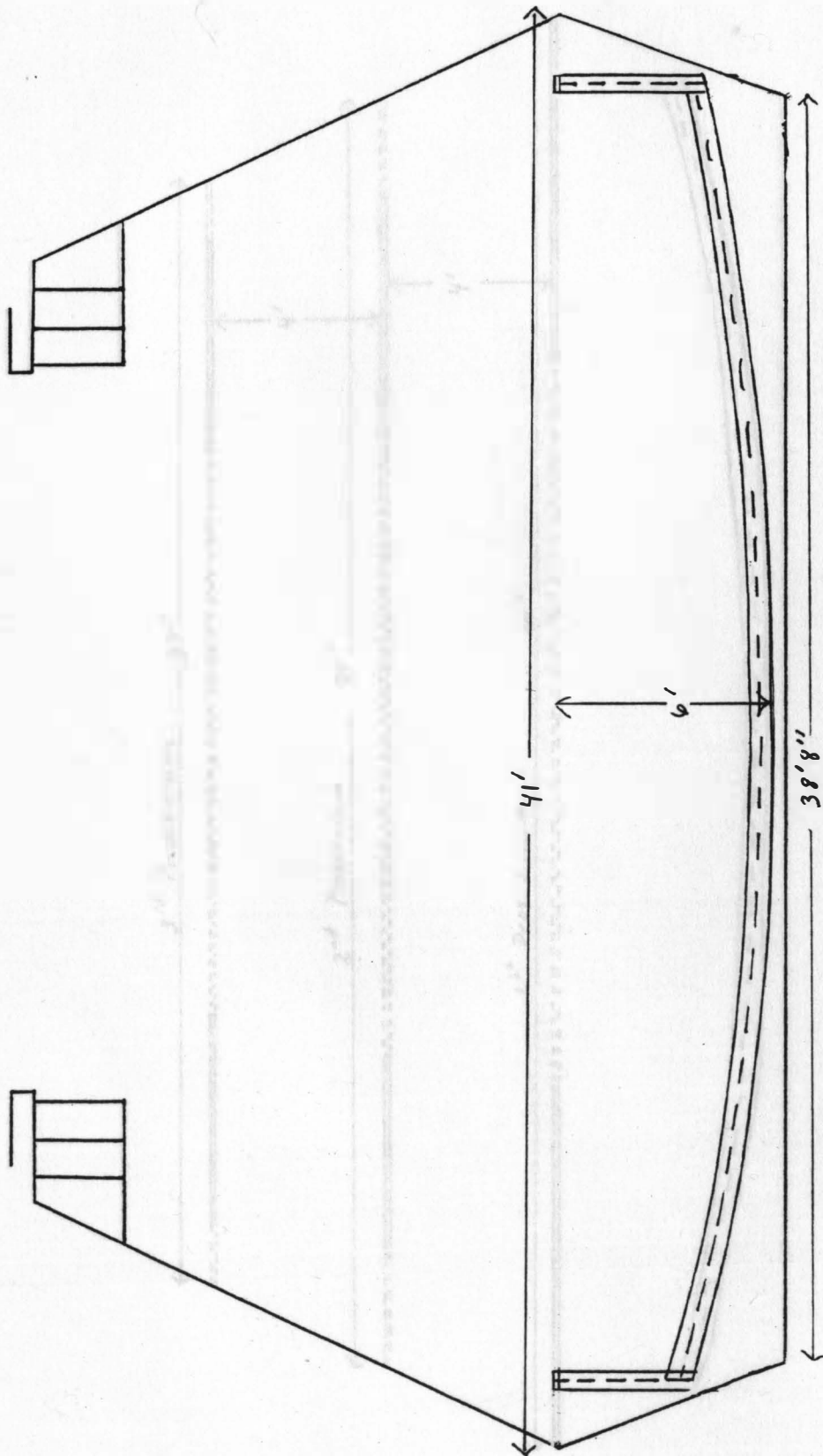
Figure 59. Proscenium wings and borders.



APPENDIX B
GROUND PLANS



Figure 14, Ground Plan of Building





DONER AUDITORIUM 
OPERA HOUSE 

Figure 58. Ground plan of stages.

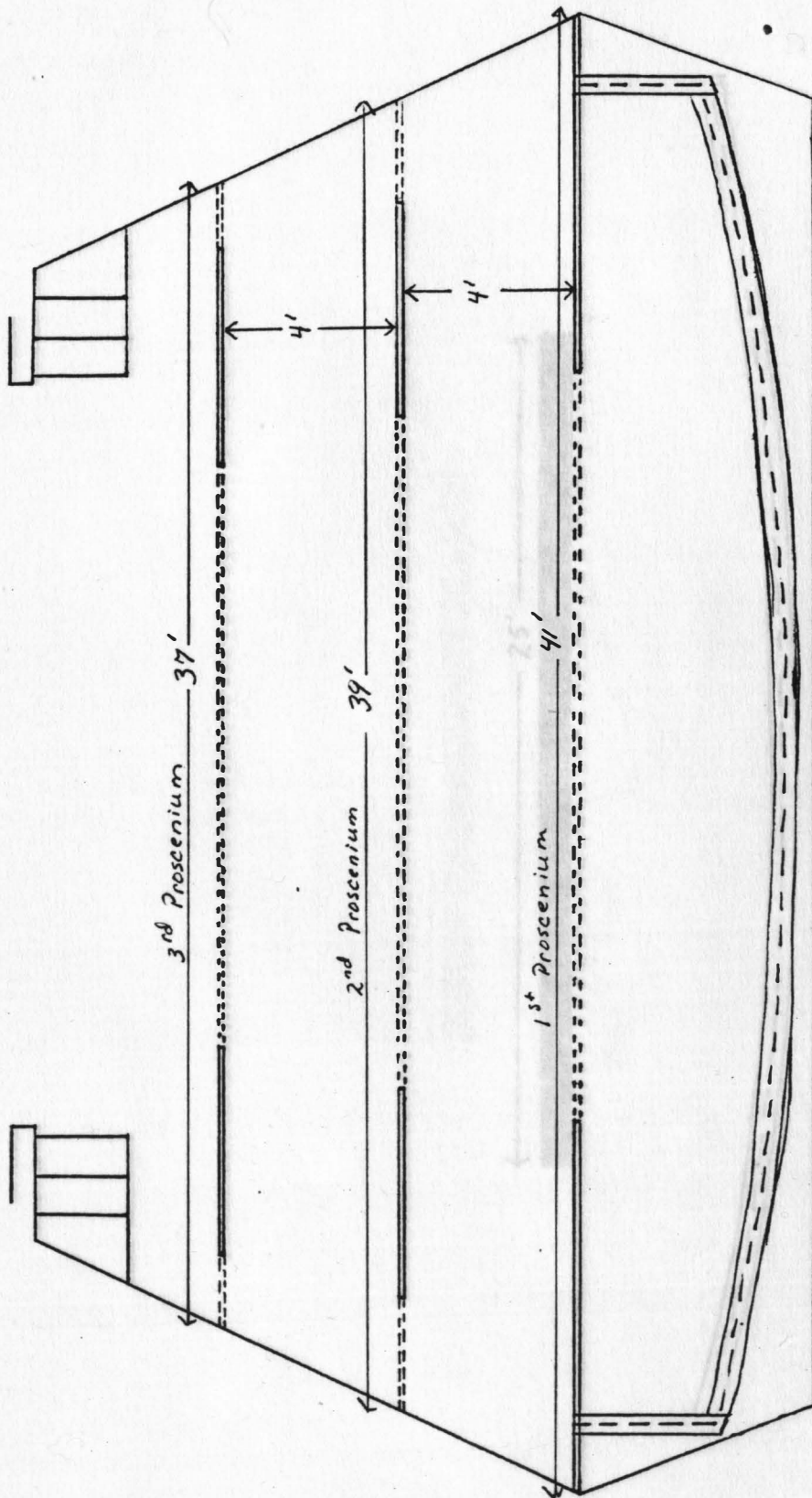


Figure 59. Proscenium wings and borders.

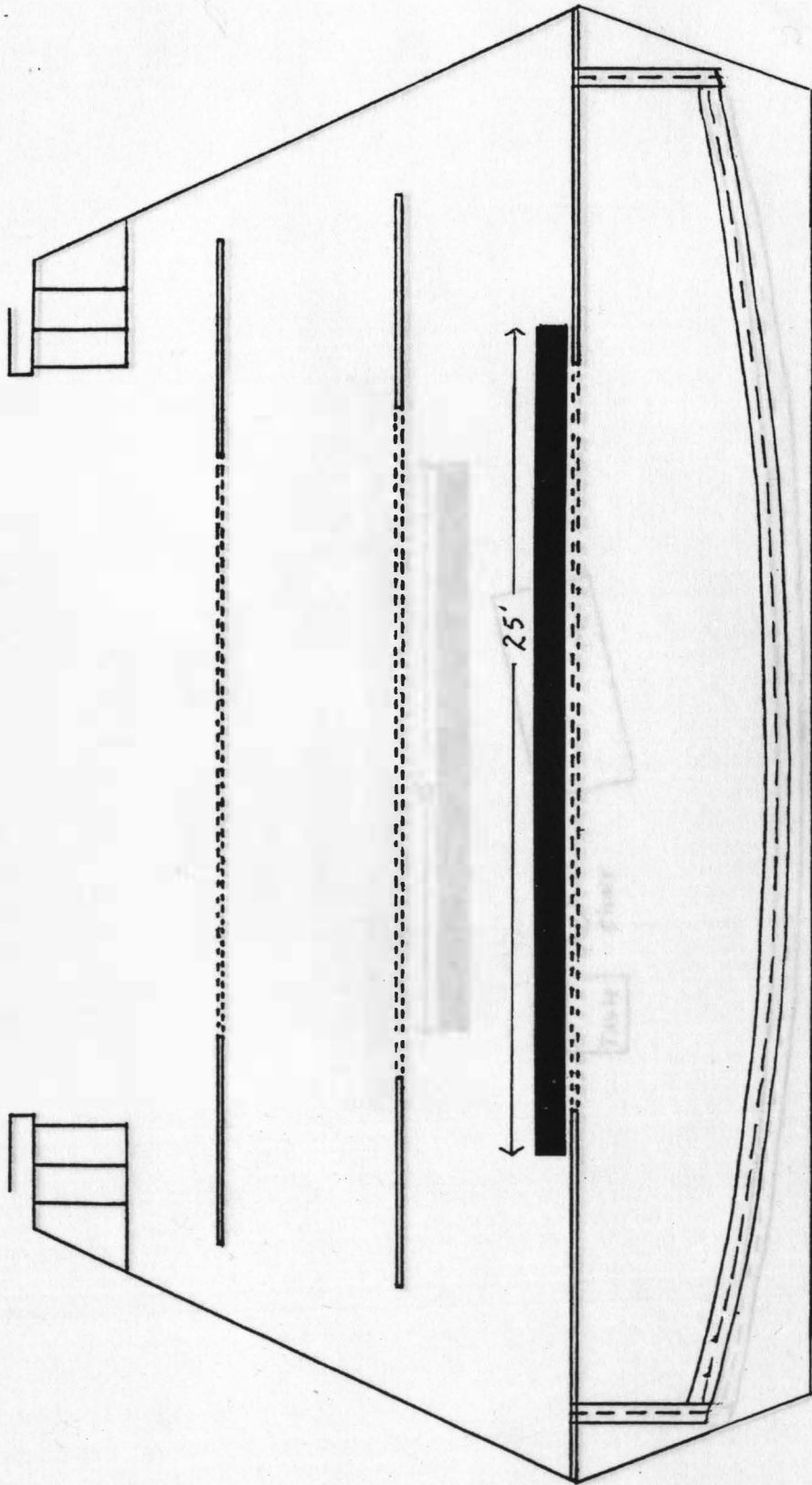


Figure 60. Front curtain drop.

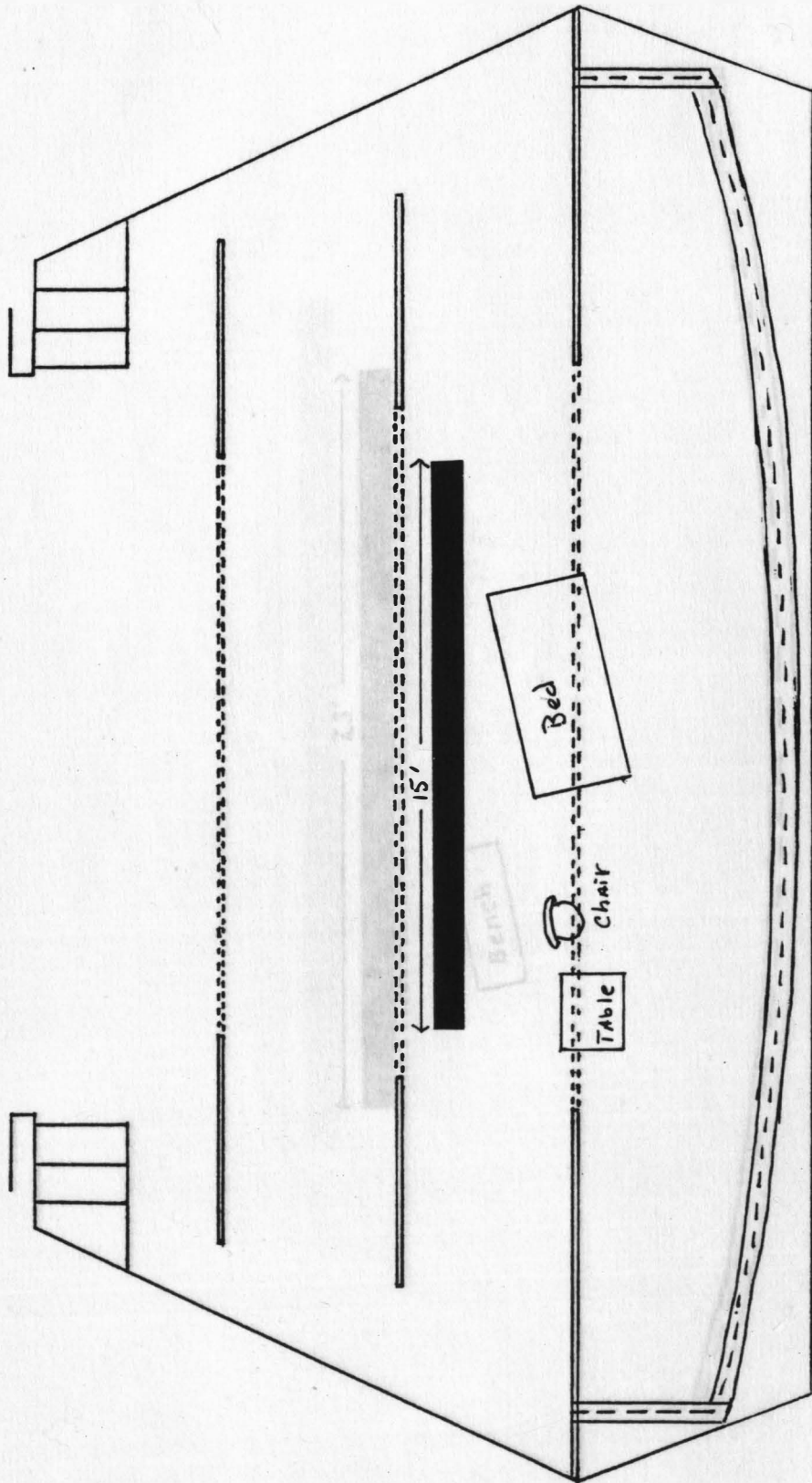


Figure 61. Garret drop.

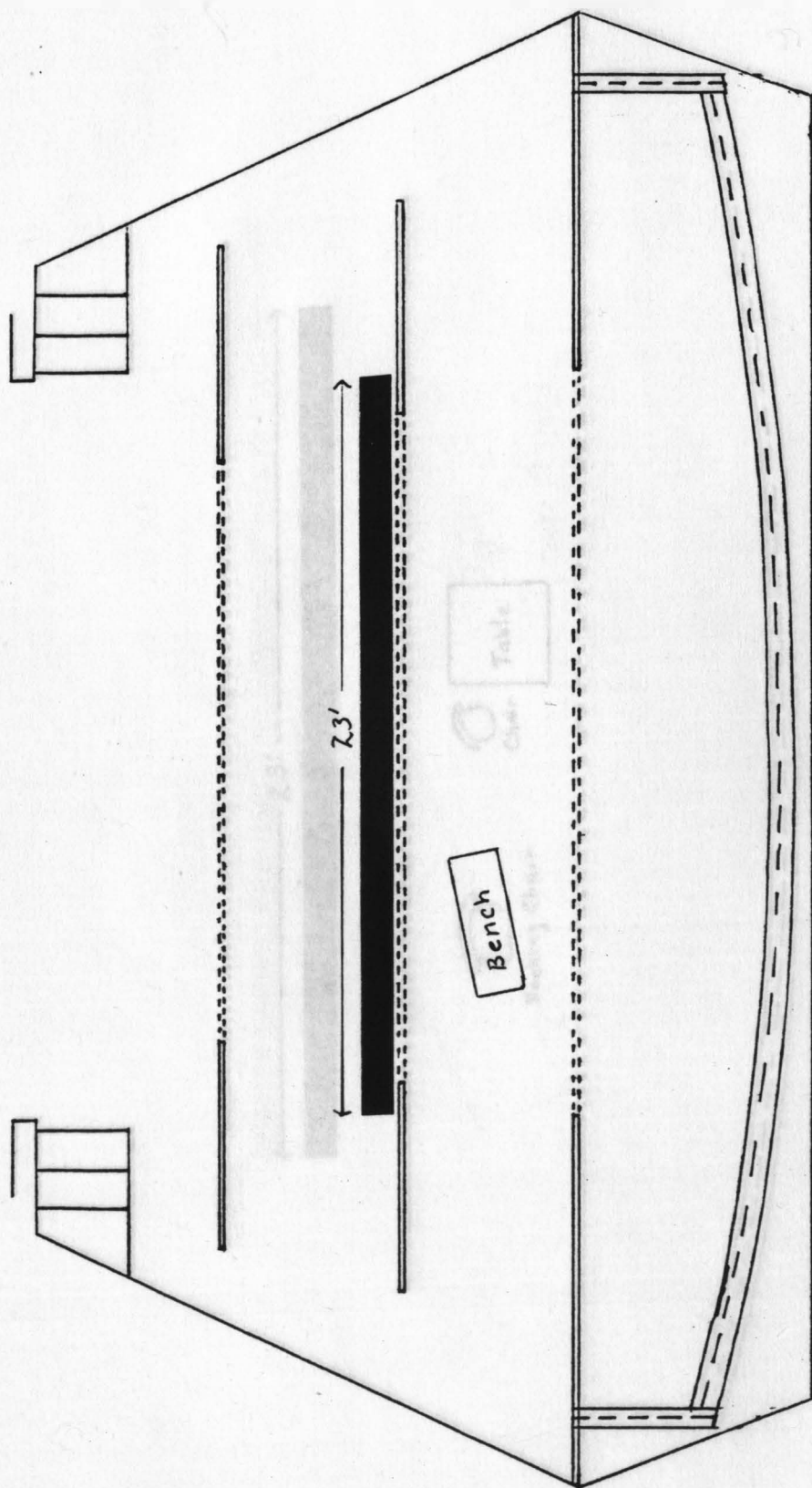


Figure 62. Street drop.

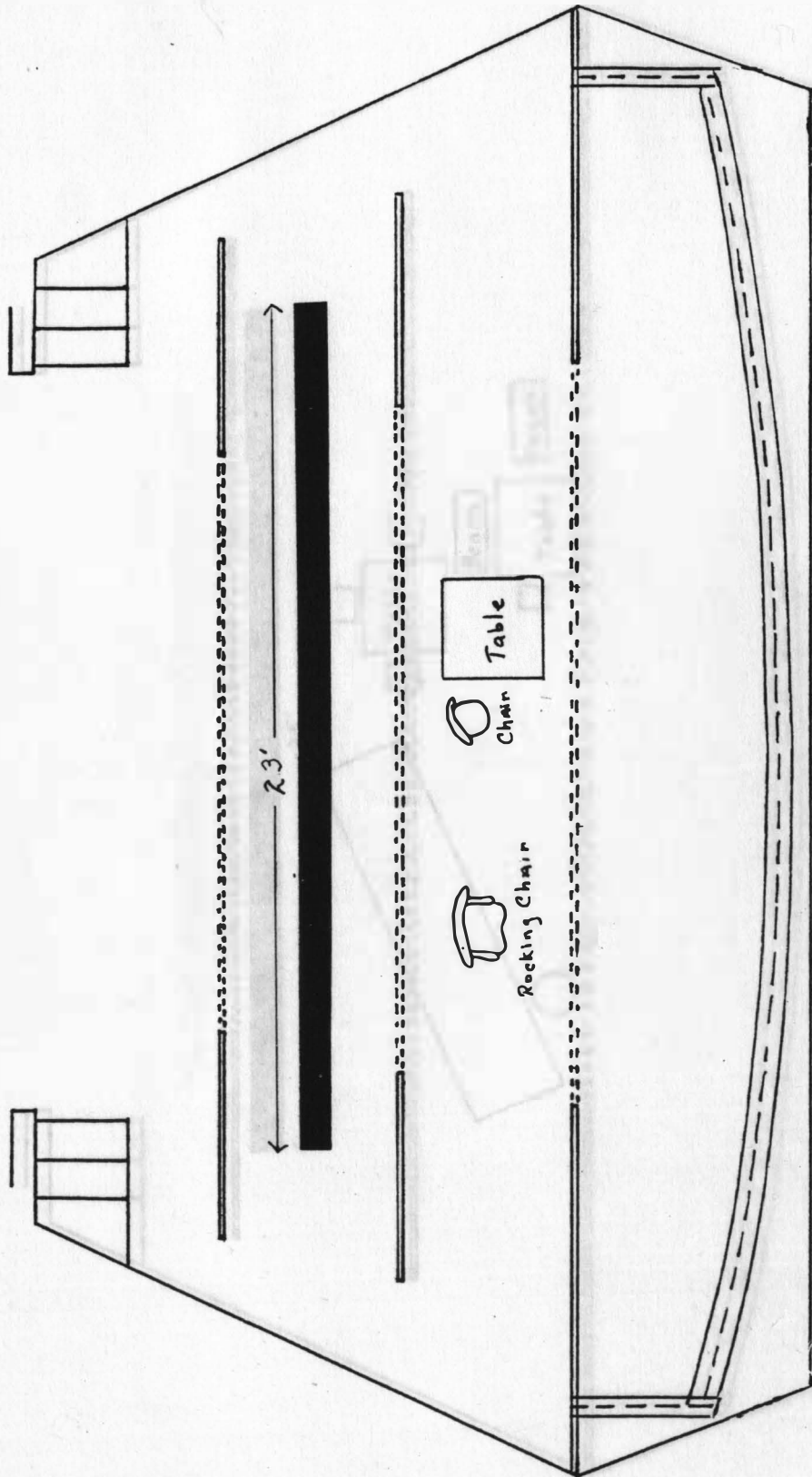


Figure 63. Cottage drop.

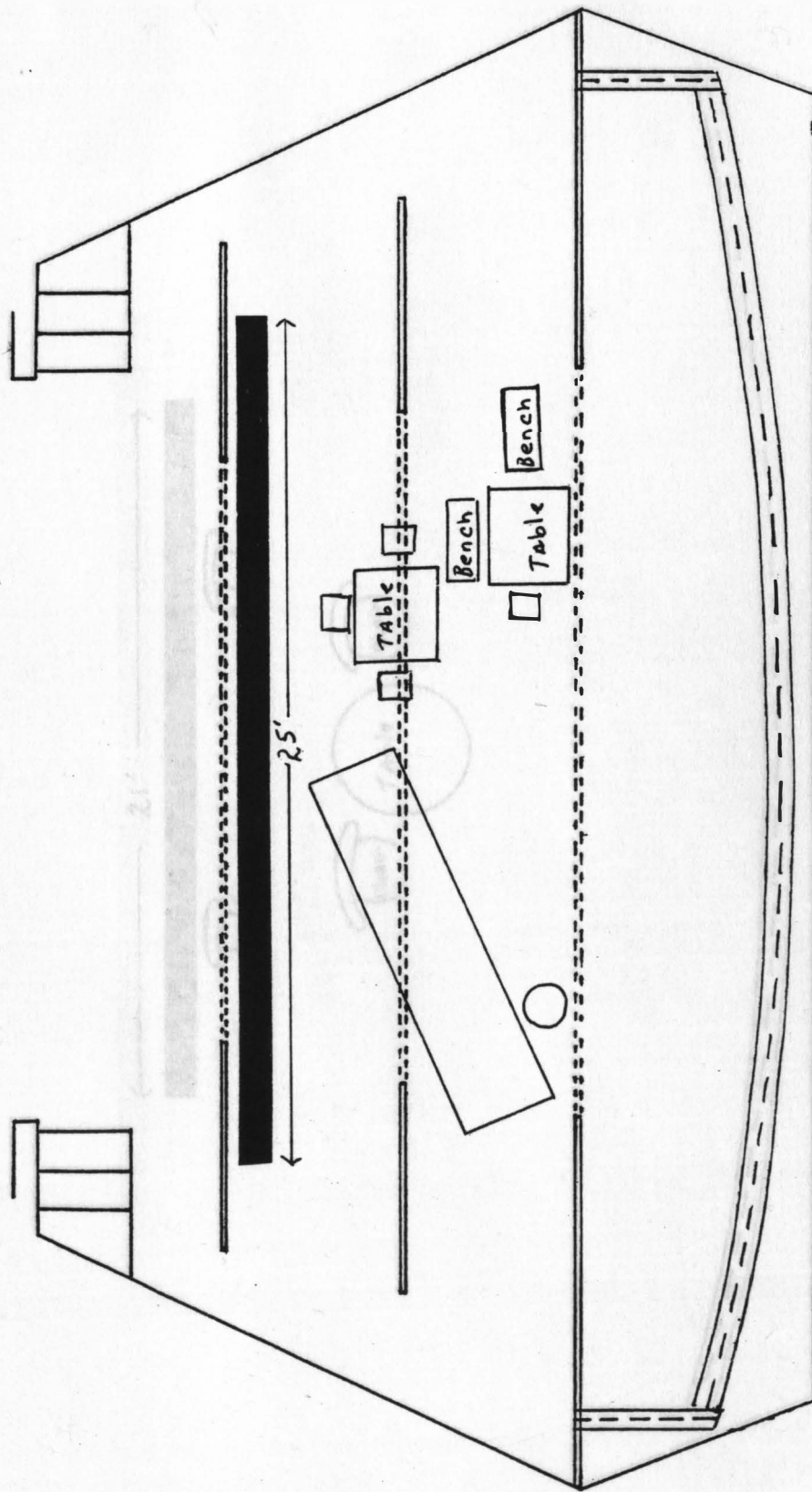


Figure 64. Saloon drop.

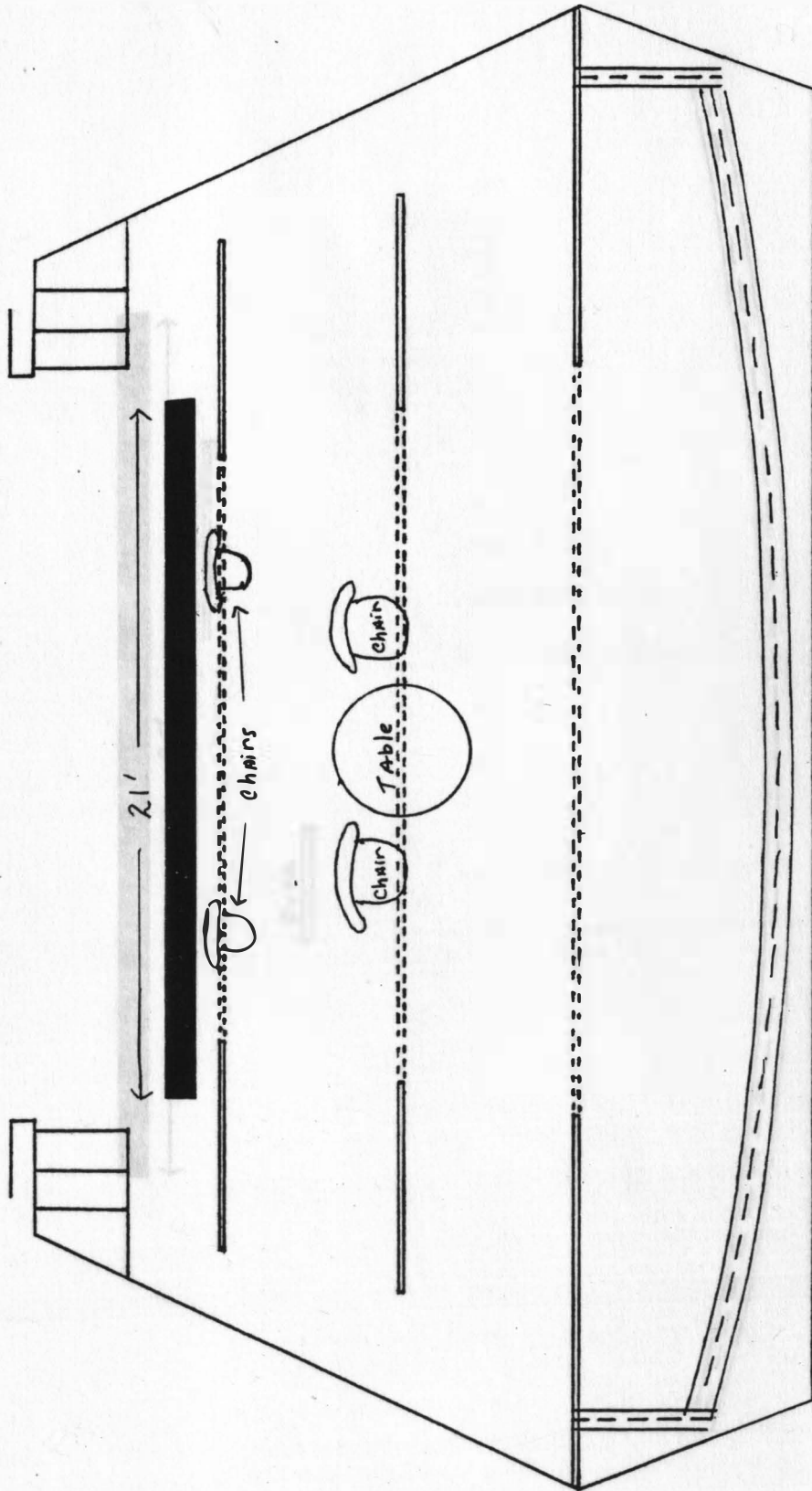


Figure 65. Front room drop.

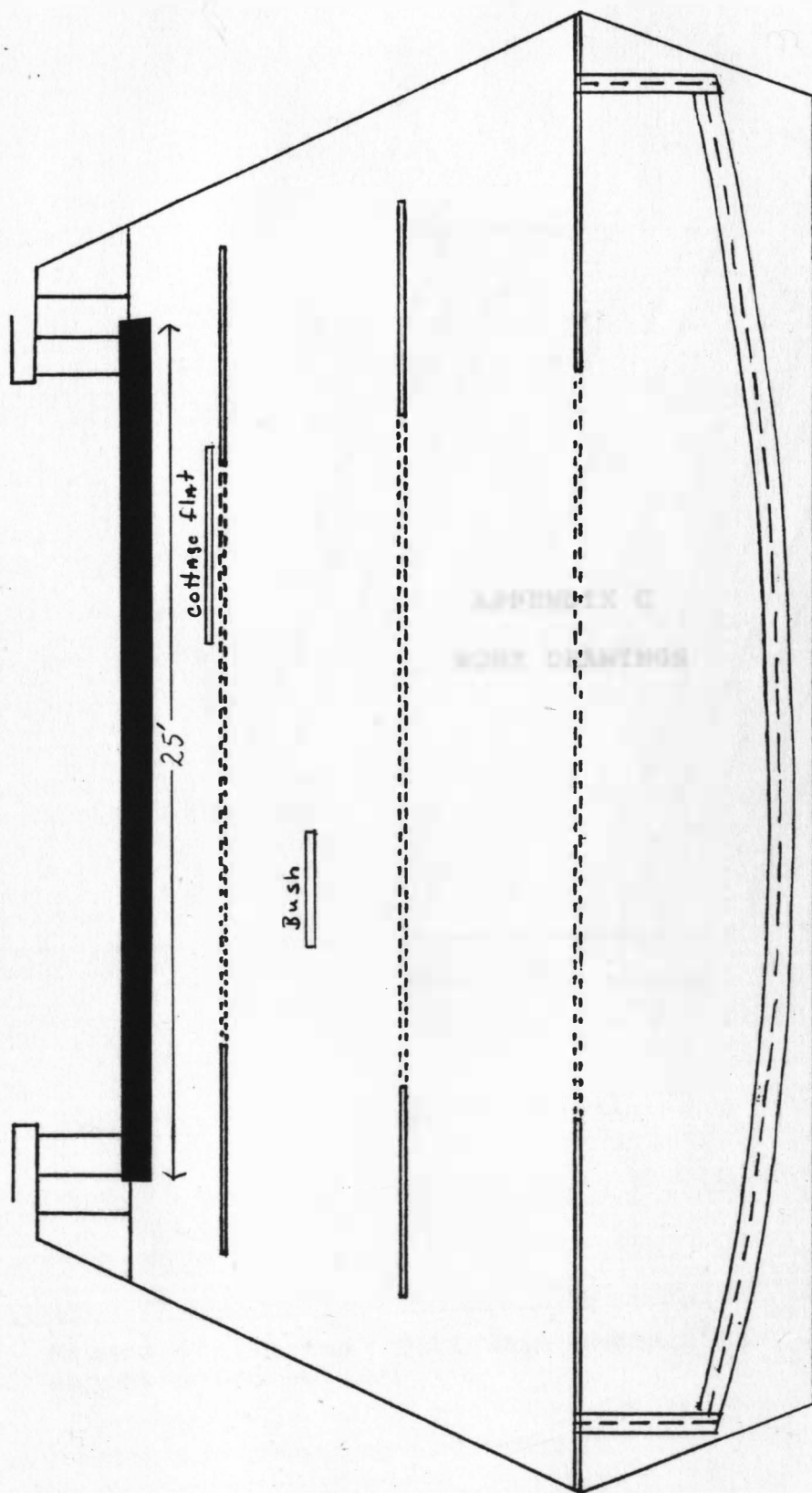


Figure 66. Woods drop.



APPENDIX C
WORK DRAWINGS

Figure 67. Actual roll size pattern for 1/4 inch diameter supports for rollers.

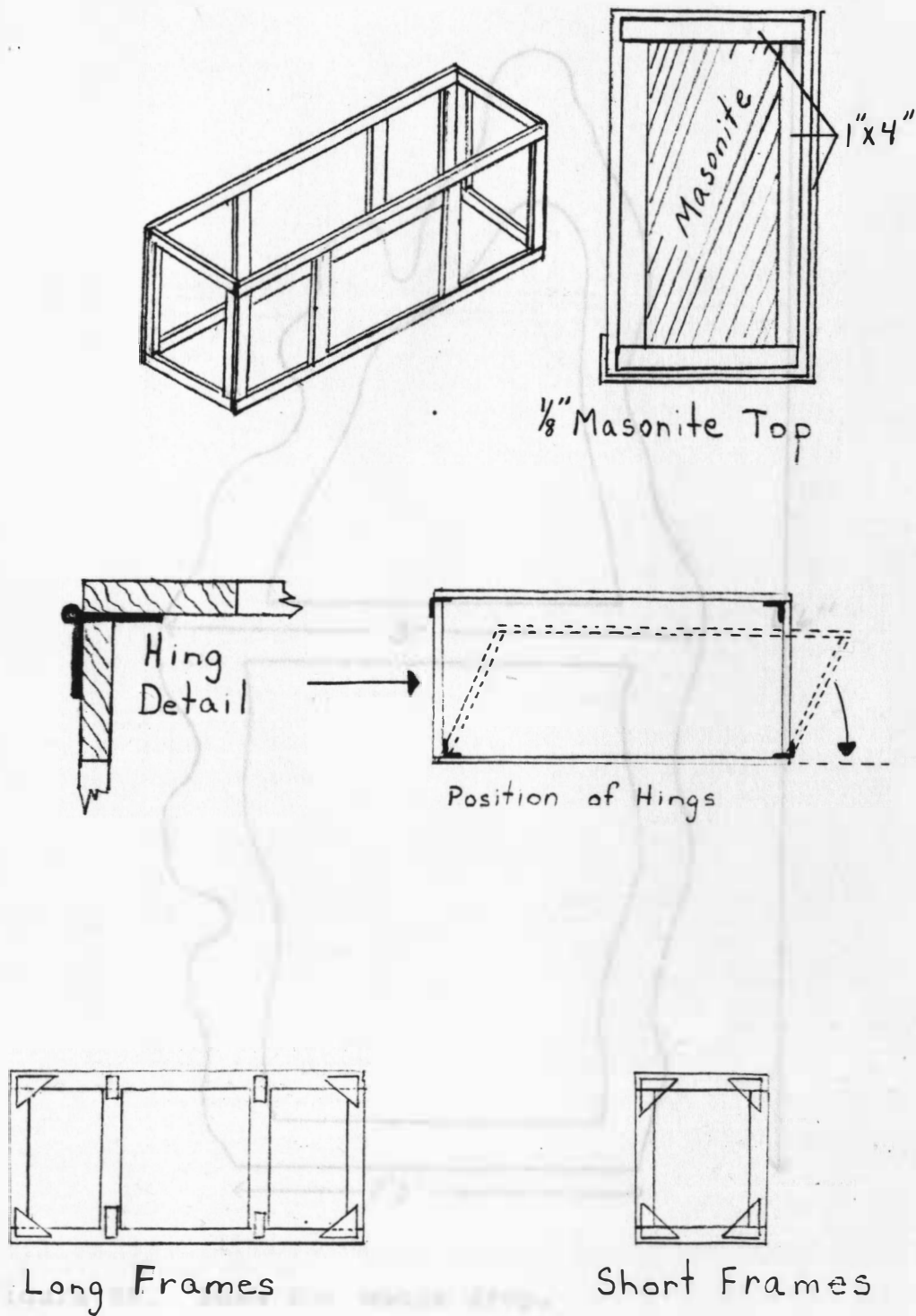


Figure 68. Bar for saloon.

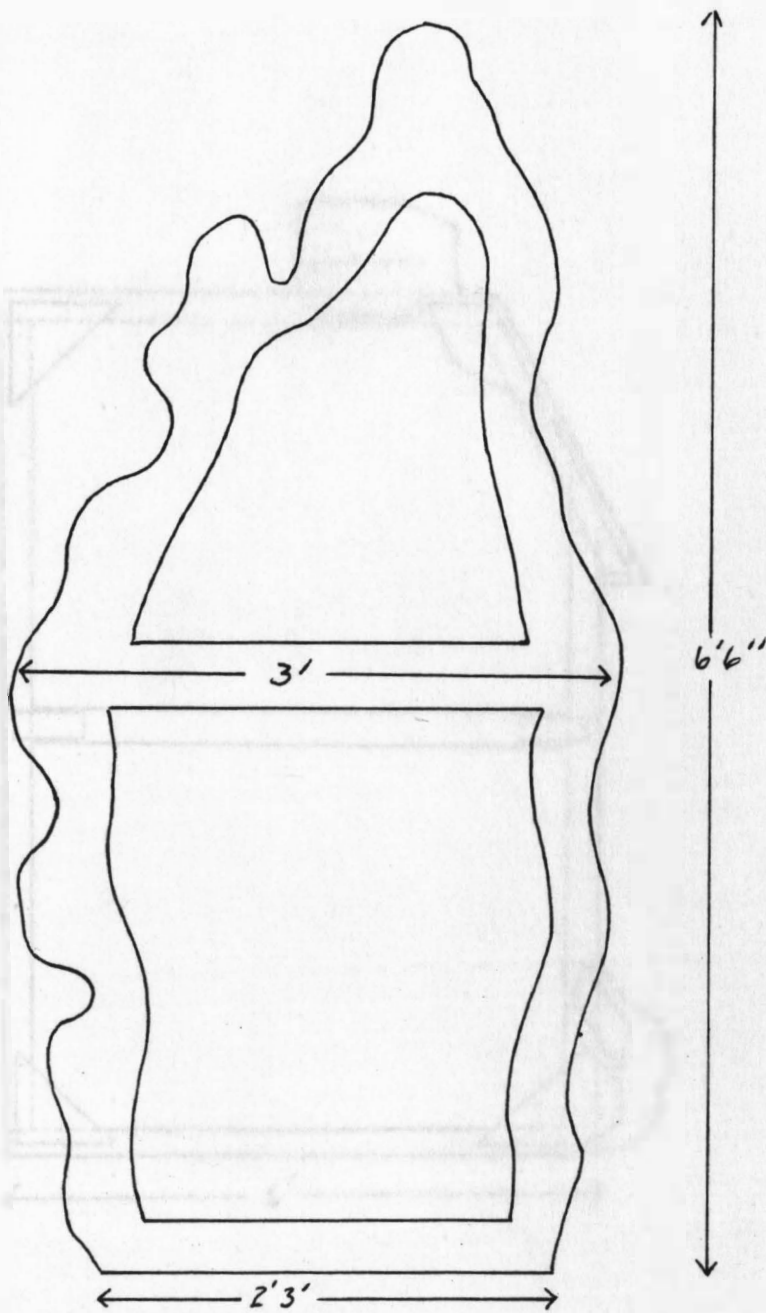


Figure 69. Bush for woods drop.

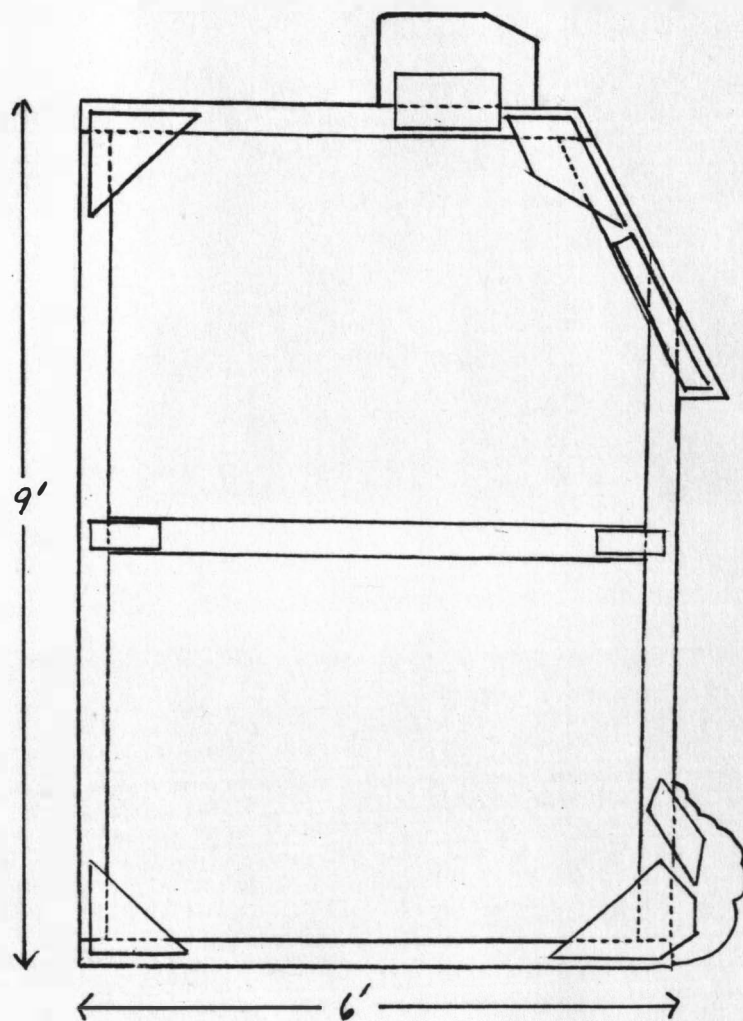


Figure 70. Cottage flat (inverted).

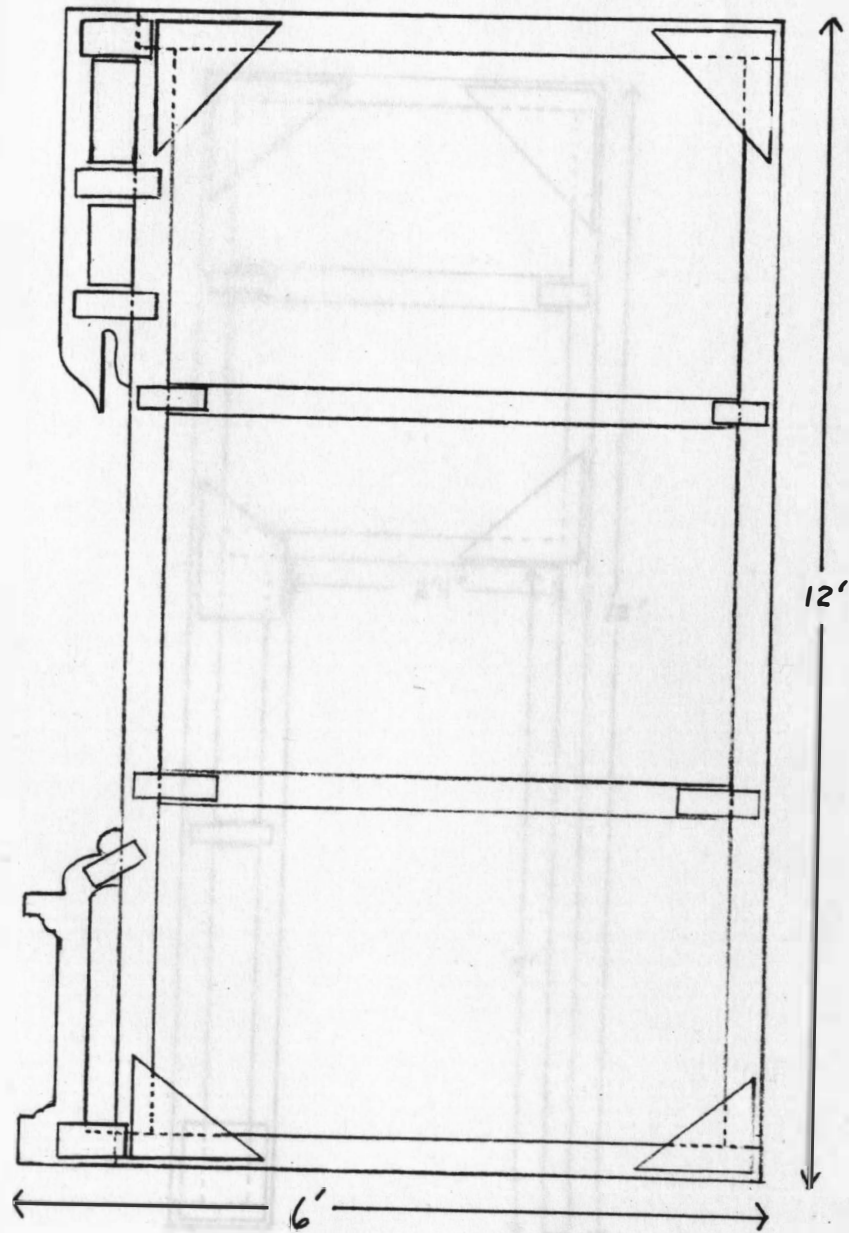


Figure 73. Proscenium wing flat.

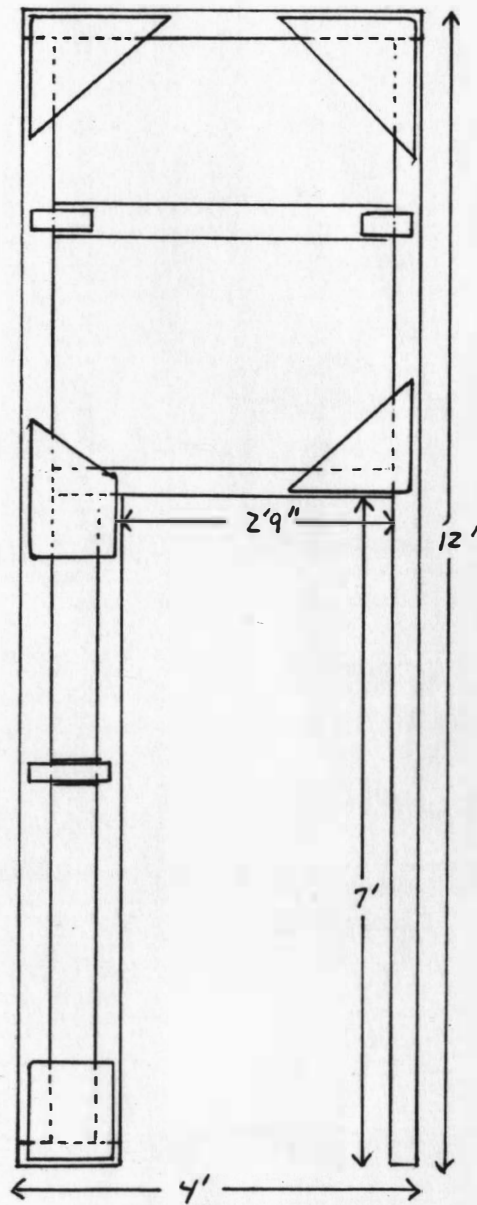


Figure 74. Proscenium wing door flat.



Figure 12. Hull cross-section of the ship.

Figure 13. Hull cross-section of the ship.

Figure 14. Hull cross-section of the ship.

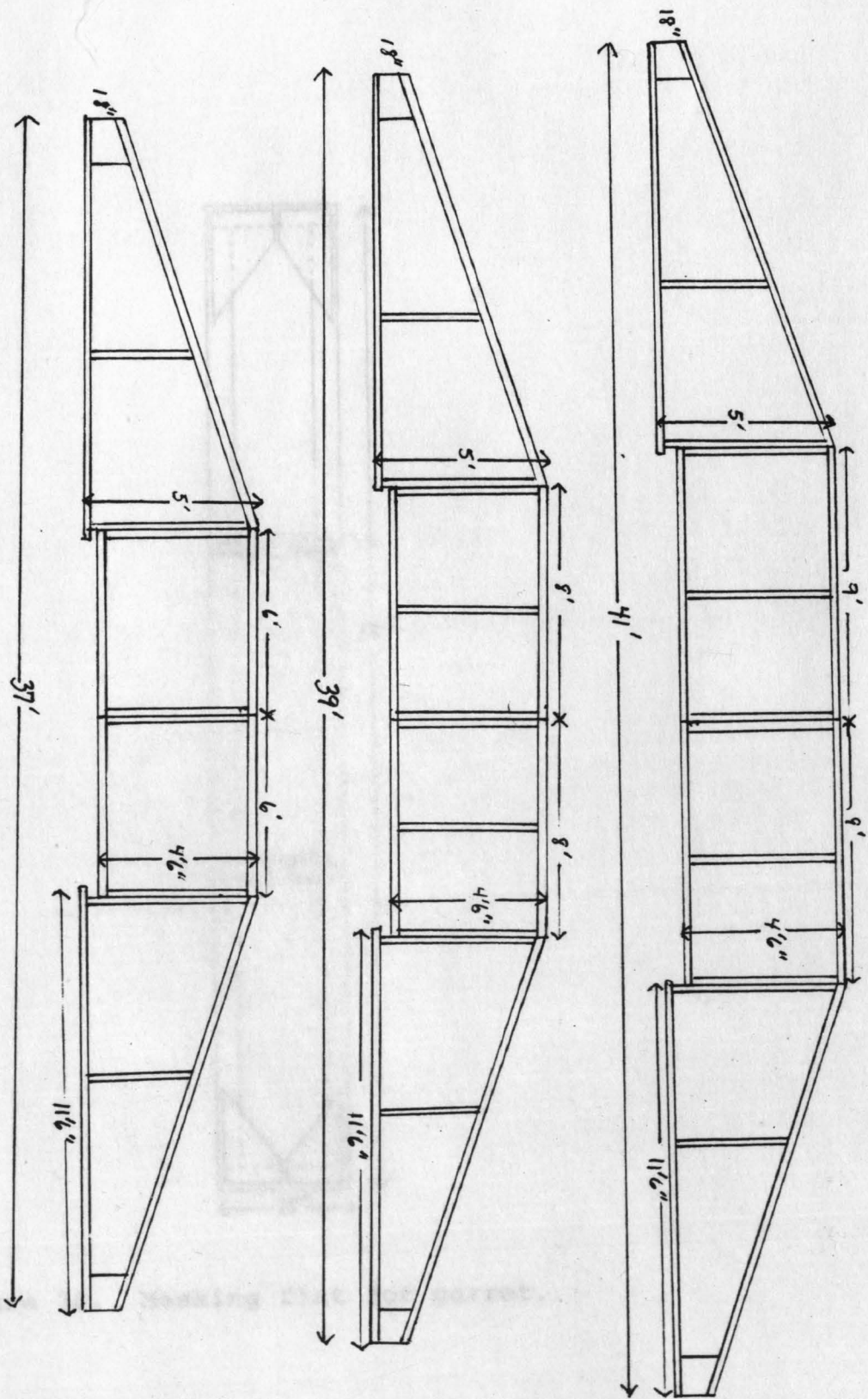


Figure 1. Making the Truss

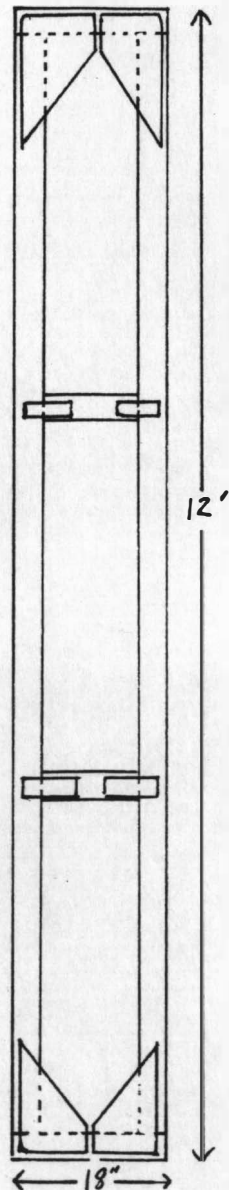
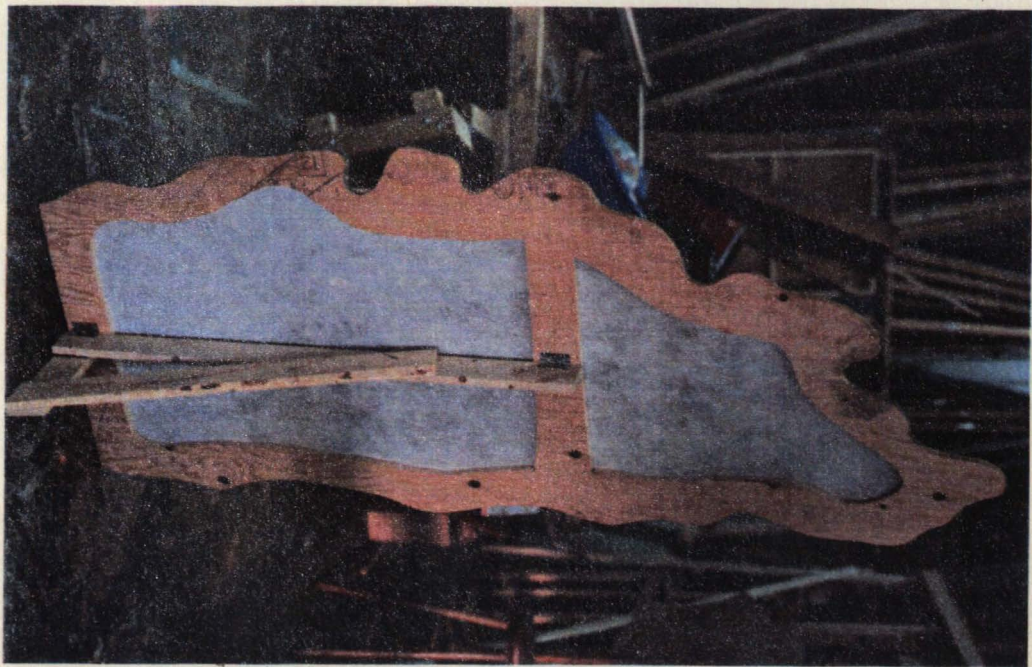
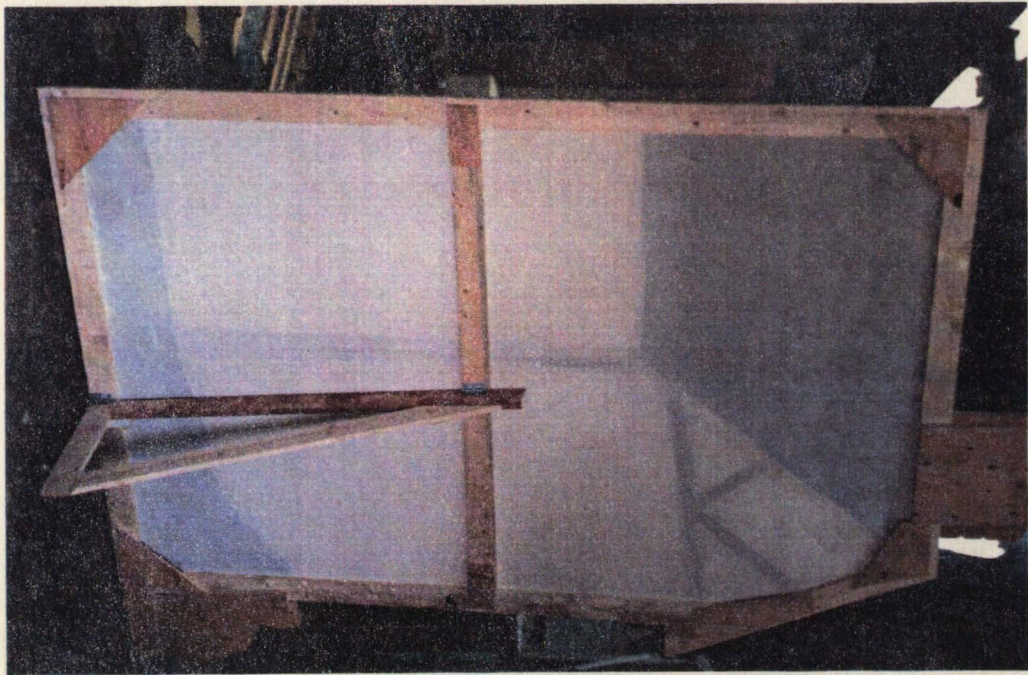
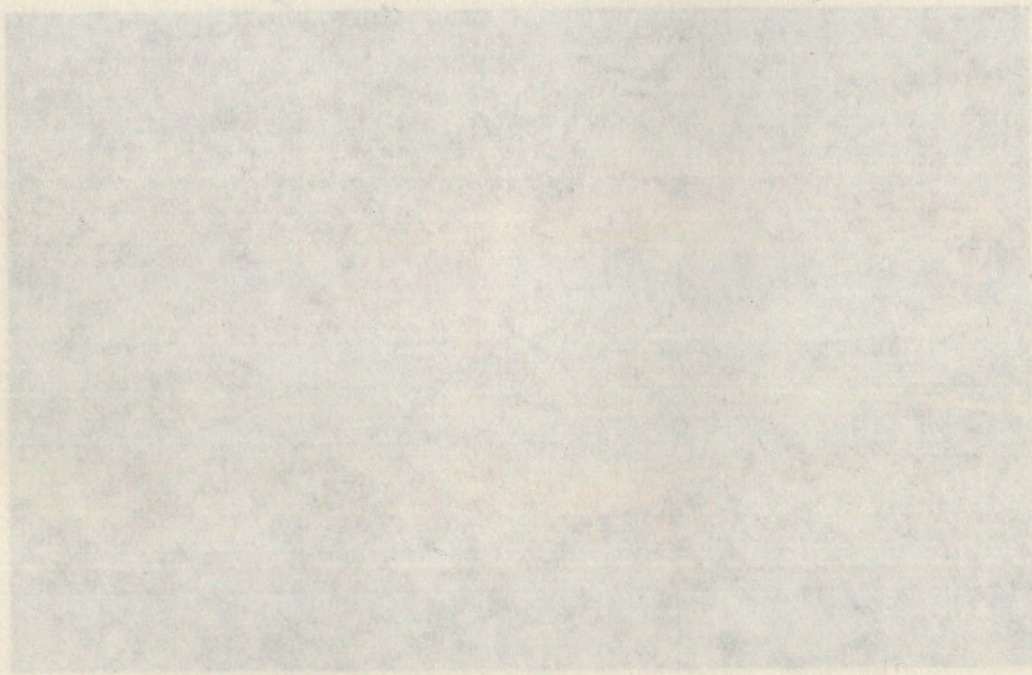
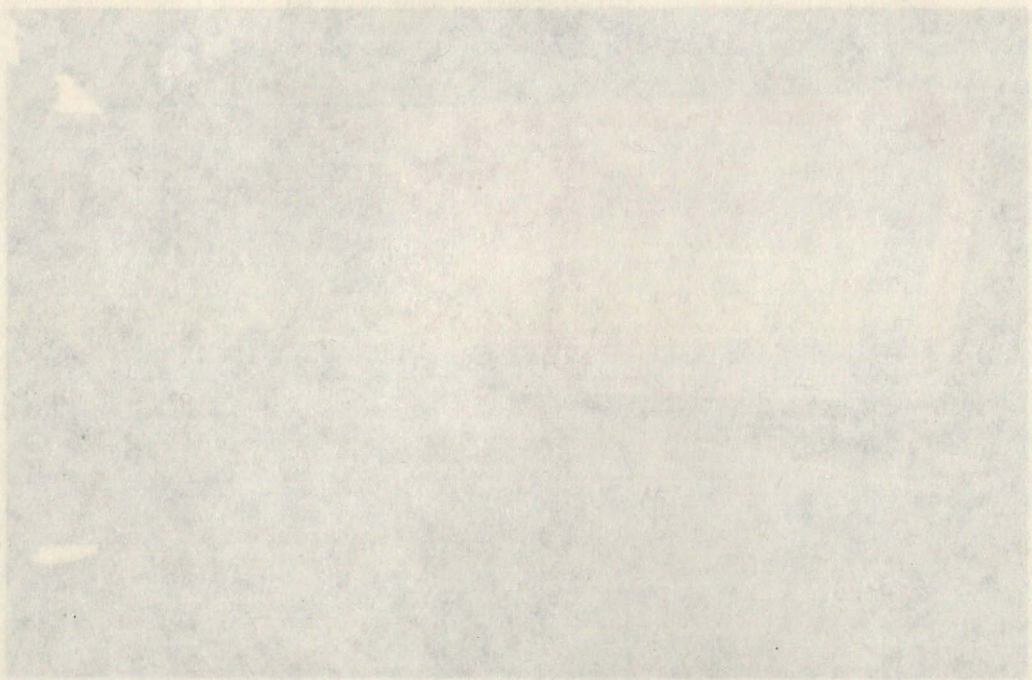


Figure 78. Masking flat for garret.

Figure 79. Rear view of exterior cottage flat showing stage jack.

Figure 80. Rear view of bush cut out of plywood with stage jack.





APPENDIX D

COLOR PLATES OF FINAL WORKS

Figure 81. Front curtain with wing and borders, Opera House, Madison, SD.

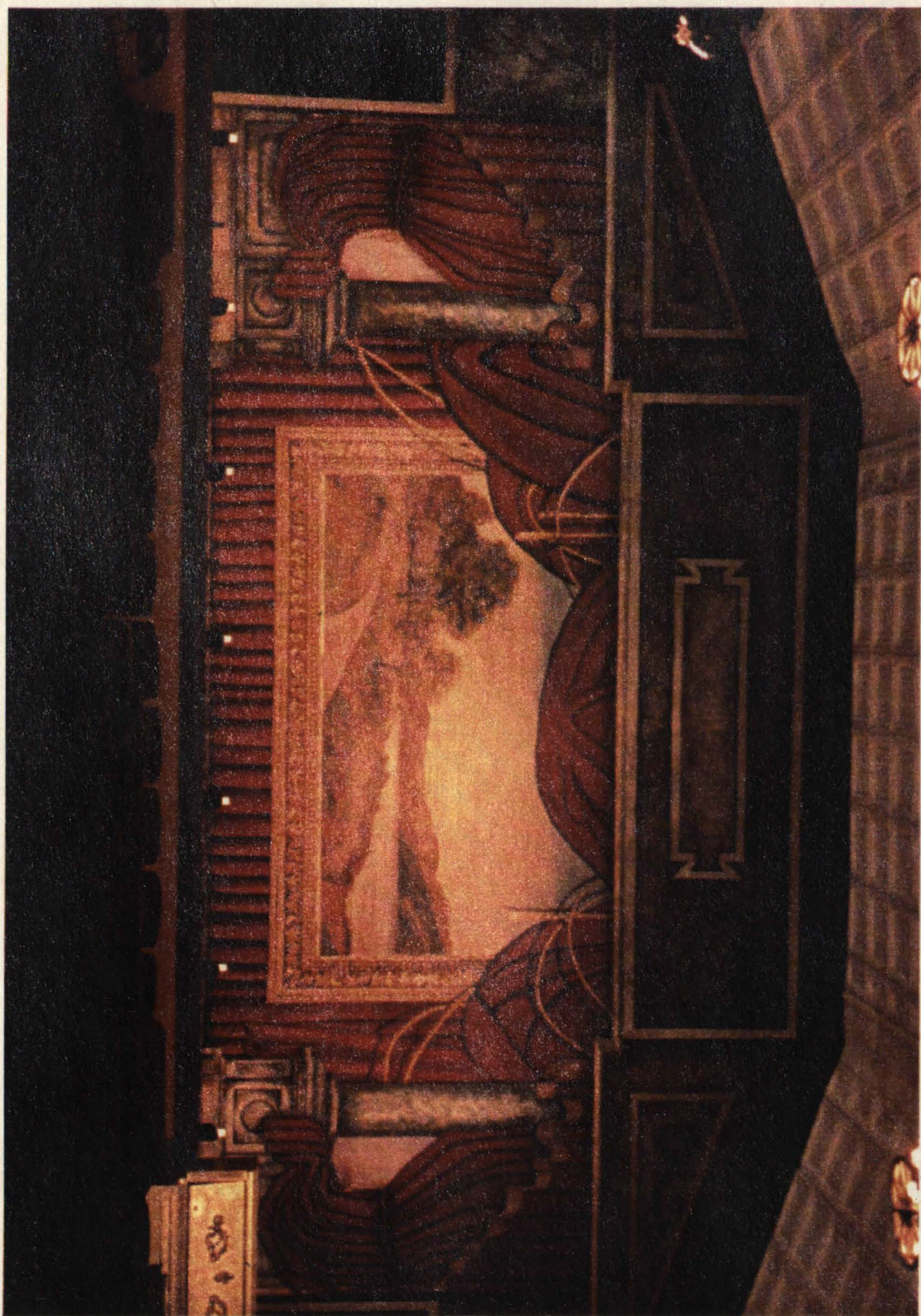


Figure 82. Garret drop, Opera House, Madison, SD.

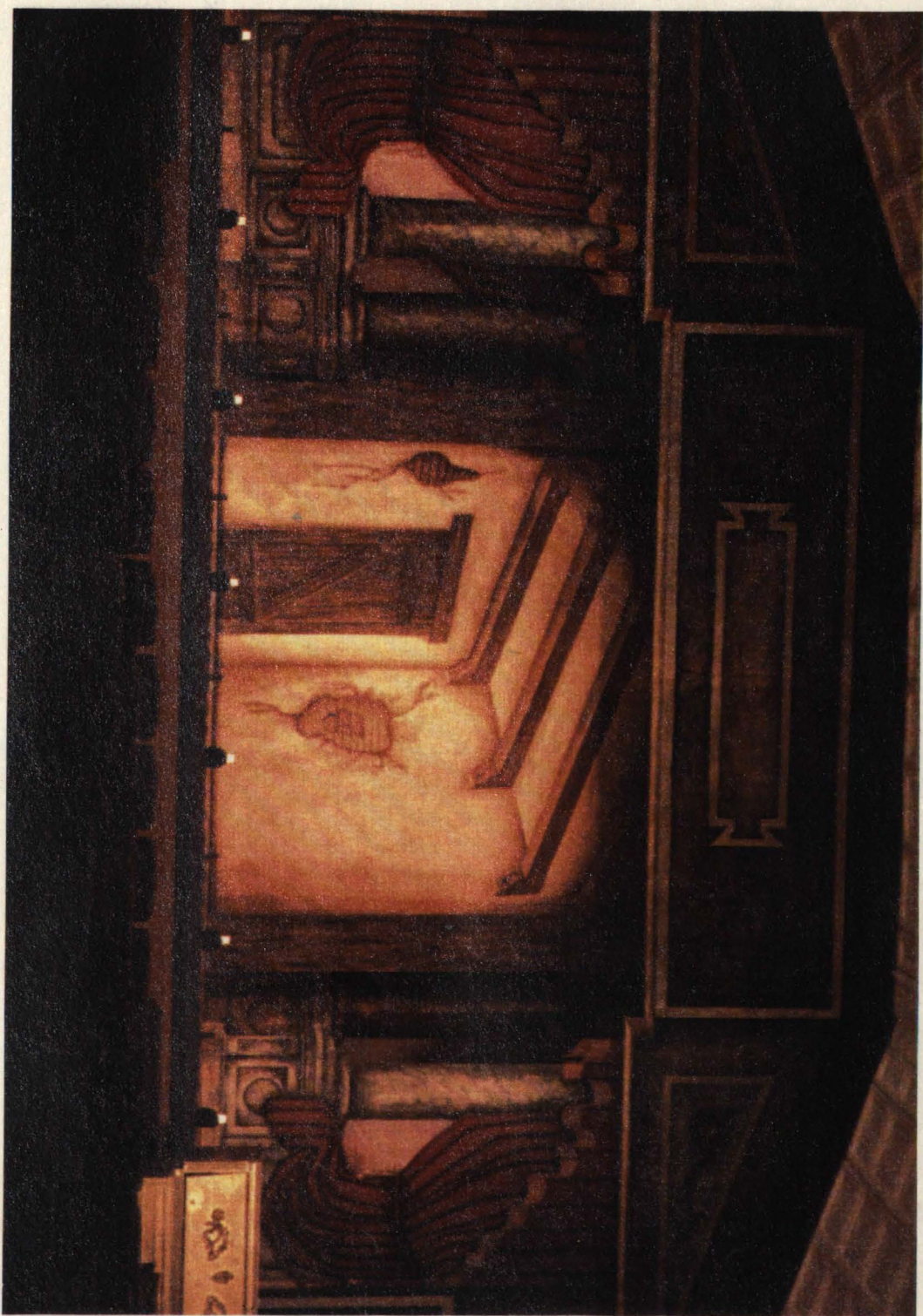


Figure 83. Street drop, Opera House, Madison, SD.

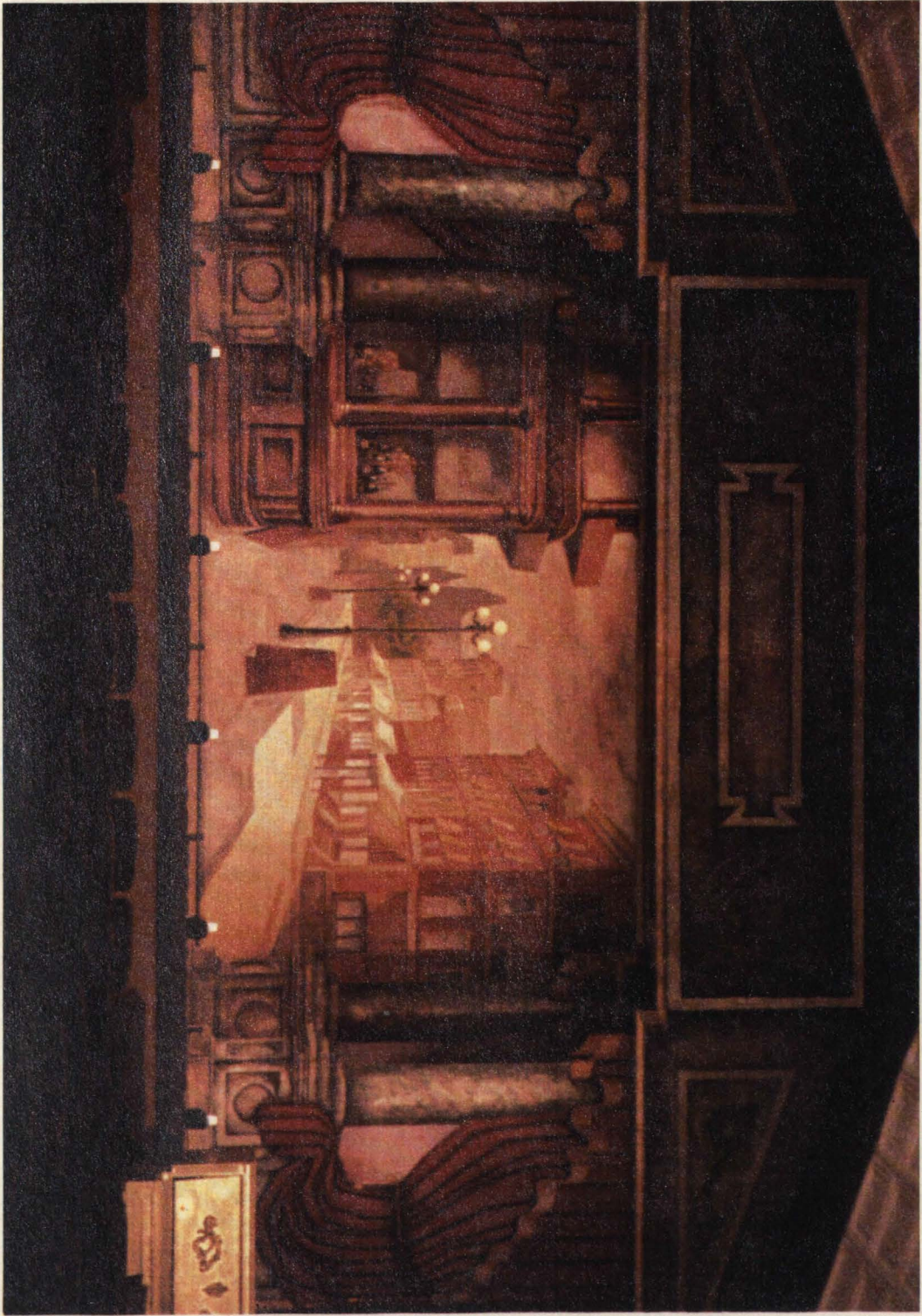


Figure 84. Back room (cottage drop), Opera House, Madison, SD.

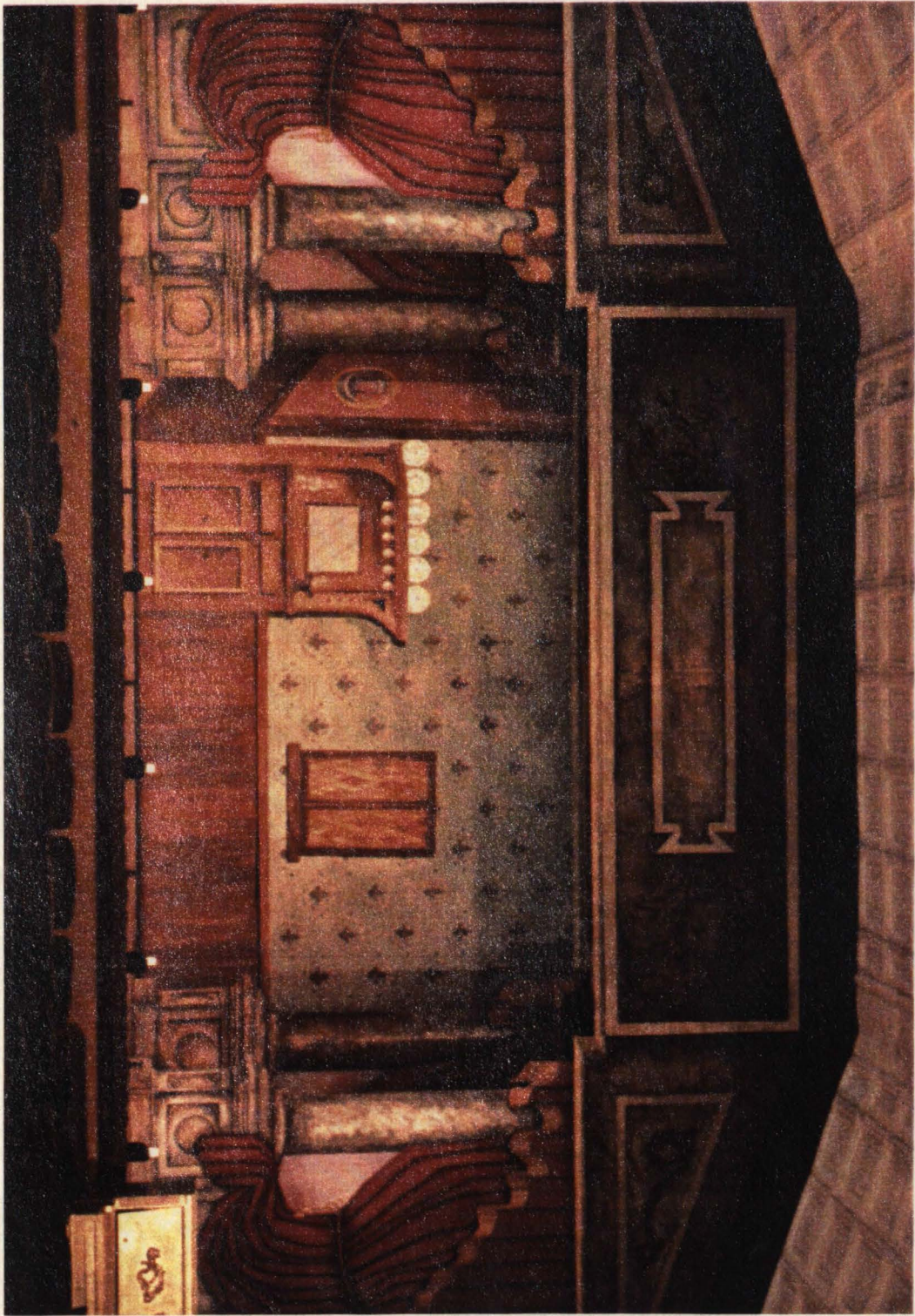


Figure 85. Saloon drop, Opera House, Madison, SD.

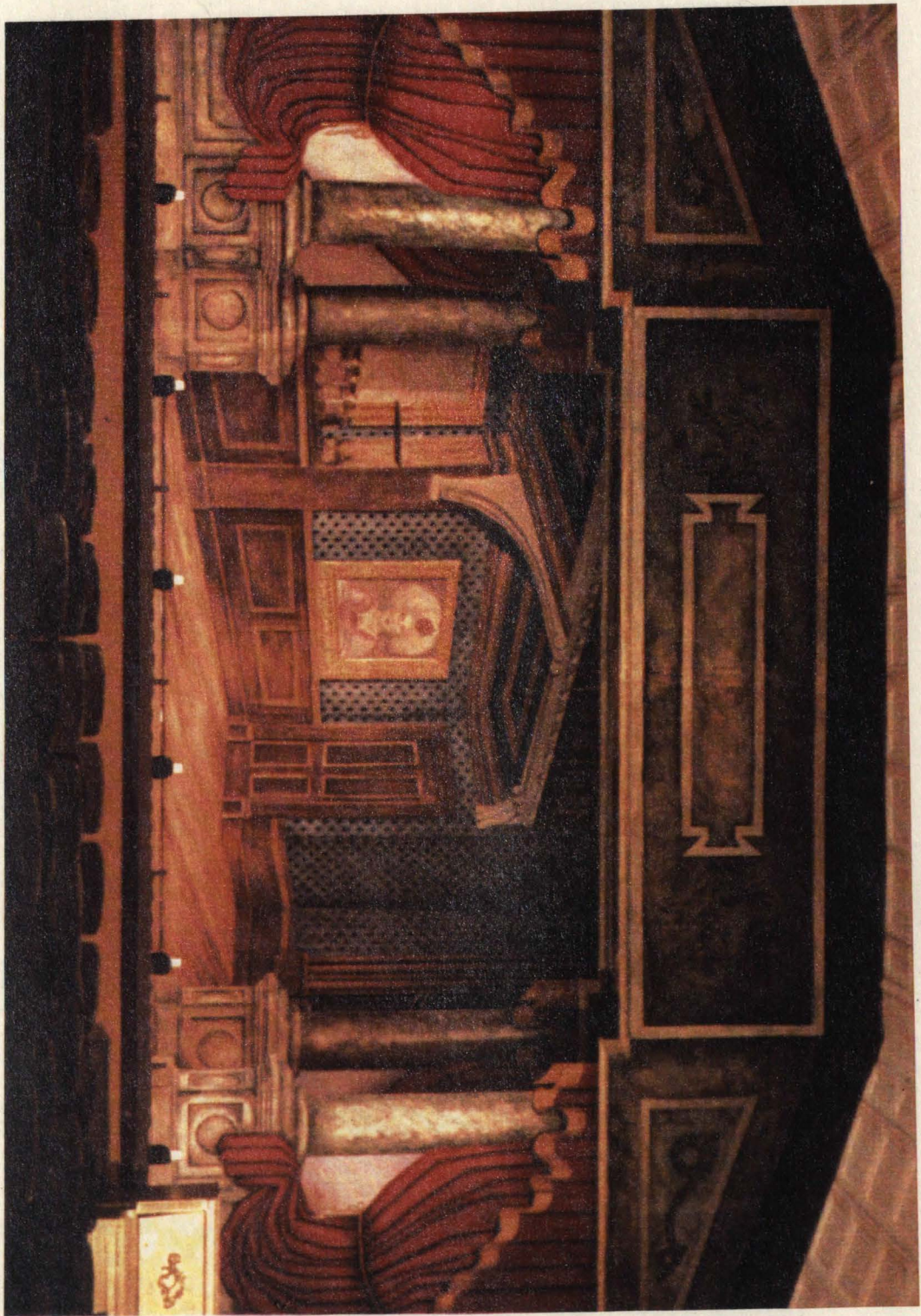


Figure 86. Front room (Miss Spindle's parlor), Opera House, Madison, SD.



Figure 87. Woods drop, Opera House, Madison, SD.

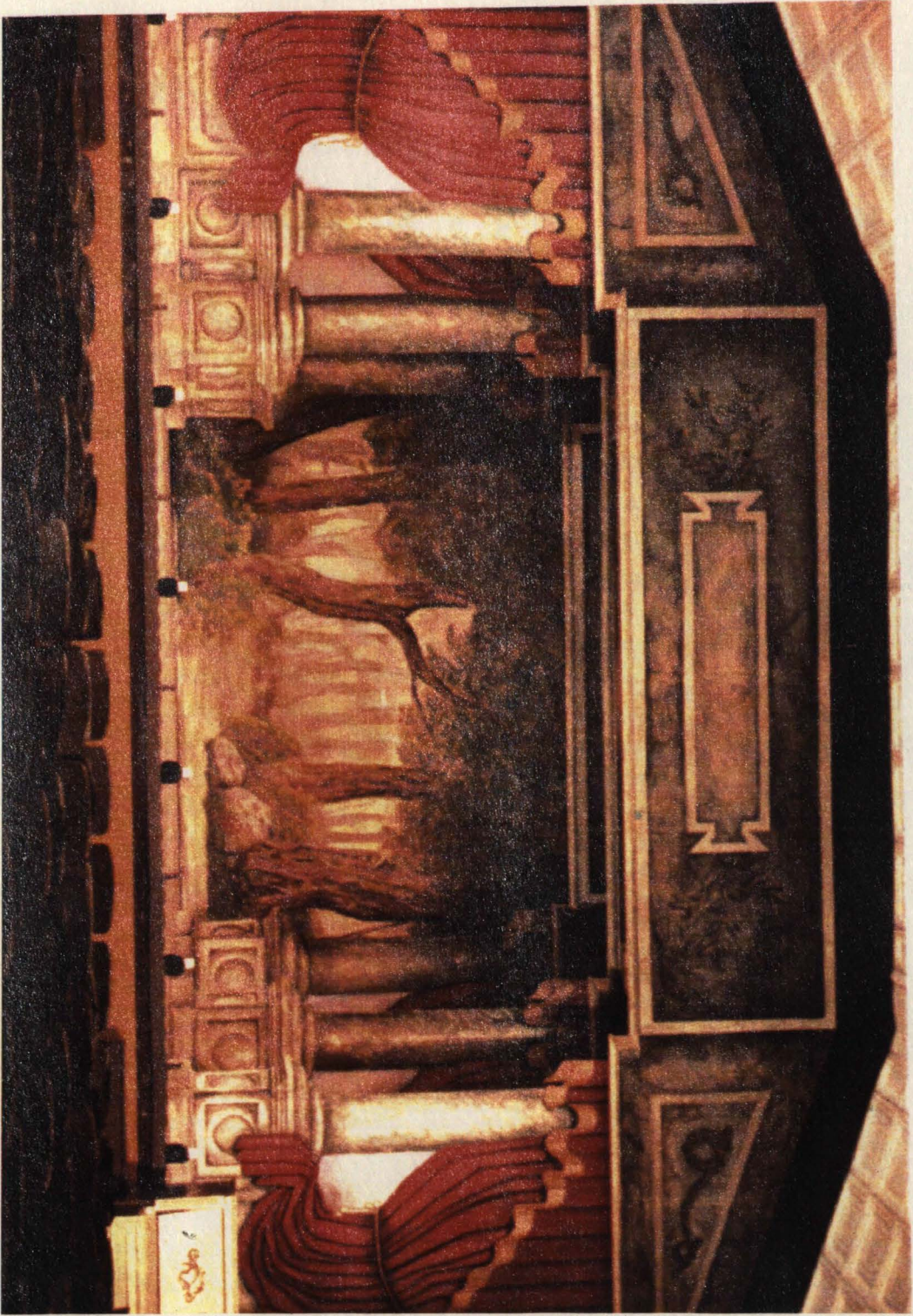


Figure 88. All drops partially rolled, Opera House, Madison, SD.



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