

FRENCH

PRESENTING MARIONETTES

REINHOLD

*Presenting*

# MARIONETTES

*Susan French*







*Presenting*  
**MARIONETTES**

*Susan French*



Reinhold Publishing Corporation  
New York  
an Art Horizons book

*for Sterling*

© 1964, Art Horizons, Inc.  
All rights reserved  
Printed in the United States of America  
Library of Congress Catalog Card No. 64-13648

Photographs and illustrations by the author  
Diagrams by Janet Johnson  
Type set by Graphic Arts Typographers, Inc.  
Printed and bound by The Comet Press, Inc.



## Contents

INTRODUCTION	7
A Brief History of Puppetry	
1. Selecting the Play and Distributing the Work	16
2. Modeling and Casting the Head	19
3. Making the Bodies	43
4. Animals and Other Special Forms	67
5. Costumes	74
6. Stringing and Controls	81
7. Theatre, Scenery, and Lighting	89
BIBLIOGRAPHY	95
INDEX	96

#### A CONFESSION OF FAITH

I do not fear, for my part, to formulate my creed. I believe in the immortal world of marionettes and dolls. Doubtless there is nothing human in the way of flesh in these little beings of wood or cardboard; but there is in them something of the divine, however little it may be. They do not live like ourselves, and yet they do live. They live as do the immortal gods. If I were a scholar, I should attempt to establish their symbolism as Guigniaut strove, according to Creutzer, after the symbolism of the divinities of ancient Greece.

Certainly dolls and marionettes are very little gods, but they are gods none the less: they resemble the smaller idols of antiquity. They resemble even more the figures by which the savage clumsily assayed to portray the invisible. And what are they like, if not like idols, since they are idols themselves? Their function is an absolutely religious one. They bring to little children the only vision of the divine which is intelligible to them. They represent all the religion accessible to the most tender age. They are the cause of our first dream. They inspire our first fears and hopes. Pierrot and Polichinelle contain as much divine anthropomorphism as can be comprehended by brains scarcely formed, although already terribly active. They are the Hermes and the Zeus of our little children. And every doll is still a Persephone, a Kore, to our little girls.

I should like these words to be taken in their most literal sense.

*Anatole France*

LA VIE LITTÉRAIRE

## A Brief History of Puppetry

The existence of puppets can be traced back to the beginnings of civilization. Some form of articulated doll has been found among the artifacts of nearly every early culture. They began as gods.

The French word *marionnette* is thought to have evolved from "little Mary," for puppets were used in medieval times at religious ceremonies. "Puppet" is derived from the Italian word *pupa*, meaning doll. In the English speaking countries "marionette" usually means with strings, while "puppet" is used as the general term. In France, however, "marionette" covers all types: *marionnettes à fils*, *marionnettes à gaine*, *marionnettes à tiges*: string puppets, hand puppets, rod puppets, etc. Rod puppets and shadow puppets became very popular in the Orient and Middle East and have been developed into an exquisite art.

In Japan's Bunraku Theatre each puppet is manipulated by three puppeteers who work in closest harmony and in full view of the audience and who manage to create great refinement of movement and subtlety of expression. These lavish puppet productions include narrators, singers, *shamisen* players and drummers and are possibly the most complex dramatic art form in existence today.

Western puppetry seems to have originated in Italy and was introduced to other countries by traveling showmen. These entertainers presented their programs to rich and poor alike, sometimes in castles, more often in the streets. During the sixteenth century such artistry was developed in the construction of marionettes that public accusations of witchcraft were leveled

against some puppeteers who were thought to possess little devils.

Many writers have been struck by the image of man being manipulated like a puppet by forces beyond his control, but there are others who see marionettes as pagan gods, far superior to imperfect mortals. Gordon Craig, the English designer-actor-writer, caused a furor in 1911 by his suggestion that puppets in their emotionless perfection are better equipped to interpret great drama in the theatre than their human counterparts, who egotistically tear emotion to tatters in their foolish attempt to reproduce life. It is obvious that there is no need for puppets to study acting or to struggle for a characterization; they are the character they were created to be and no other. When the villain appears on the puppet stage, he is the very essence of evil and he doesn't need to try to prove it. There he stands, all his wickedness instantly revealed. In this stylized theatre, puppets tend to become symbols of human emotions or abstract concepts, as in medieval mysteries.

Puppets have had a great influence upon literature. It is said that Milton saw a puppet show of Adam and Eve and was inspired to write *Paradise Lost*. Goethe was given a puppet theatre in his youth and wrote many plays for it. His masterpiece, *Faust*, evolved from one of these efforts.

During the eighteenth and nineteenth centuries puppetry became so popular that many members of the aristocracy had private theatres. Command performances were given for the Empress Maria Theresa at her palace in Vienna. Haydn composed music for puppet operettas. In Italy puppet theatres and marionettes became

more and more elaborate; whole operas were performed as well as plays and ballets. In Rome puppet ballerinas were ordered to wear blue tights to conform to a Papal ruling on decency. In France George Sand and her son, Maurice, had a hand puppet theatre at Nohant, where they entertained their musical and literary friends. George Sand dressed the puppets and wrote literally hundreds of comedies and melodramas for them. Maurice Sand also wrote plays, and he and his friends made more than eight hundred puppets.

Eminent sculptors, writers, and musicians collaborated to establish theatres of a rather esoteric nature which had considerable vogue for a limited audience. At the same time there were hundreds of professional puppet showmen, some touring the country and some established in towns and cities, whose shows appealed more to the working classes and to the children. These puppeteers, some of them coarse and disreputable, many of them very accomplished, were active in most of the European countries and in England.

Distinctive puppet characters gradually developed in the various countries and through the years became local or even national heroes. Pulcinella, from Naples; Polichinelle, from Paris; Guignol, from Lyon; Hanswurst, from Austria; Kasperl, from Austria and, later, Germany; Punch, from England. These characters were greatly loved and are almost as much admired today as they were so many years ago.

Today, with the advent of television and motion pictures, and with so much organized activity and entertainment for children, old fashioned puppet shows are



becoming increasingly scarce. In the United States it would be out of the question for a wandering showman to set up his little theatre in a public park or town square. He would probably be arrested. There are, however, quite a number of puppeteers in America who perform at parties or for festivals, church groups, night clubs, and the like. Puppets are often seen on television, both for the commercials and for children's programs, and, more rarely, for adult entertainment. Quite a number of motion pictures have been made with puppets as actors. Sometimes the puppets are used as fantastic interludes or together with living actors. However, many films have complete puppet casts. Czechoslovakian puppet films are outstanding. There are a few puppeteers who have more or less permanent theatres.

There has been a recent development in the use of puppetry as an aid in child guidance, especially for the disturbed or retarded child, for children can create an almost immediate empathy with puppets.

About the only place in the world today where traditional puppetry is really

flourishing is in the Communist dominated countries. There are hundreds of state controlled puppet theatres in Communist China, Hungary, Czechoslovakia, Poland, Yugoslavia, and the Soviet Union. Some of these theatres are astonishingly beautiful and the puppets are exquisite. Puppet shows are a recognized force for education and propaganda and are seen regularly by children and adults in the cities and in the rural districts. It is interesting to note that entertainments for children that engender such strong emotions as fear and hate are not encouraged either in the Communist countries or in the United States.

In the rest of Europe puppet shows are still given in many of the public parks and the children flock to see them. Most of these shows would be considered pretty strong fare for our children. Villains are beaten unmercifully and there is seldom any effort to explain why they are wicked, nor are they given an ounce of sympathy. Sometimes they even end up burning in Hell! The stories are funny, exciting, and eternal; they are morality plays and often the very soul of

the hero is at stake. I have seen the children of France transported by love for the hero and passionate hate for the villain; they scream with excitement and terror, and their pure joy at the triumph of good over evil is real. They are closely involved with the puppets, but I believe they are aware of the fantasy. We seem afraid to let our children feel that strongly. Sanctioned entertainment for children in the United States is drained of vitality; it is watered down, it must not excite, it must not frighten, it is barely allowed to move. The hero isn't very good; the villain, if there is one at all, isn't very bad, just confused. And so are the children. After seeing one of these pretty, pleasant entertainments, the children cannot be very deeply involved. Children will, of course, seek violence and it is ready-made for them in many of the television shows where absolutely real appearing people seem to be endlessly beating up or killing other absolutely real people. We can only hope they are aware of the fantasy. With puppets there is no doubt. They are pure fantasy. They are immortal.

*18th century carved wooden hand puppet, probably Venetian. Collection of the author.*



*Hand puppets from Bologna, Italy. The character on the left may be "Sandrone." Collection, Harry Burnett.*





*Carved wooden heads for hand puppets, origin unknown. They may be characters from a morality play. Collection of the author.*



*Marionettes or string puppets from Bologna, Italy. Collection, Harry Burnett.*





*Sicilian puppets, about 200 years old. The bearded warrior is four and a half feet tall and weighs about 50 pounds. The Sicilian puppet theatre is a disappearing art, but traditional themes have remained the same: the Crusades, the stories of Charlemagne and Roland. The battling warriors create a fearful din as their swords strike the heavy armor of the enemy. Collection, Alan Cook.*





*Folk puppets from India, 18 inches tall.  
Collection, Alan Cook.*



*Shadow puppet from Turkey, about  
12 inches tall, by K. Ali. These flat  
puppets are silhouetted against a screen  
and manipulated from below. This  
character, called Arnavut, is made of  
translucent cow hide stained brilliant  
colors, which show through the screen. At  
its height, the Turkish puppet theatre  
was a vigorous folk art. Collection,  
Alan Cook.*





*Siamese shadow puppets made of buffalo hide. Intricate perforations cut with a chisel create exquisitely elaborate details of costume and headdress. The figures are painted and gilded. Collection, Alan Cook.*





*Javanese rod puppets, or "Waylang golek." They are over two feet tall and are to be manipulated from below. Collection, Alan Cook.*





*Antique Japanese puppet heads from the Bunraku-za Theatre at Osaka. These two heads, which are only about six inches high, are smaller than the ones used in the theatre today. The eyebrows on the male head are made to move up and down by means of the lever shown on the wooden piece, which supports the head. Both heads can be made to nod up and down. Collection, Alan Cook.*





## Selecting a Play and Distributing the Work

The only rule for creating a marionette show is a real desire to try it. There should be no fear of failure, for with imagination and love, even the crudest effort is crowned with success. As soon as a little figure is formed and made to move, a kind of magic takes place and the puppet achieves a life and personality of its own; perhaps not what the creator had in mind, but life just the same.

Depending on the abilities of the individual or the group, the production may be as simple or as complex as desired. If it is to be complex, then it is important that these complexities appear easy and smooth in the performance of the play. It is no pleasure for an audience to be continually struck by the difficulties and hard work of the backstage crew. It really doesn't matter how hard the crew works or how frantic the commotion backstage as long as the show seems effortless from the front. The puppet theatre, unlike the living theatre, is no place for the ego. When the puppeteer comes from behind the scenes to take his bow, all bathed in sweat and exhausted from his efforts, the audience has a feeling of disappointment. They would have liked to believe that the puppets had done the show themselves. The puppeteer, as far as the audience is concerned, doesn't matter at all.

In selecting a play for puppet production the most important thing to remember is that puppets are not people. A puppet play is most difficult if the parts could just as easily be undertaken by live actors. If such a play is nevertheless decided upon, the puppets should be stylized so that they can never be accused of competing with humans. Then beauty of sight and sound takes precedence over

emotion as in the dehumanized oriental theatre. This type of production would have delighted Anatole France, who said, "I have an infinite desire to see marionettes replace living actors. If I must speak all my thought, actors spoil the play for me, I mean good actors, such as are found at the Comédie Française. Their talent is too great, it covers everything."

It is unpleasant to see marionettes struggling to be people, except in parody, which can be hilarious. The ordinary movements that people make easily are the most difficult feats for marionettes. However, they can out-leap, out-fly, out-soar any living actor no matter how acrobatic. Marionettes can burst apart and become whole again; people must remain in one piece. People are bound to the earth; marionettes do not feel the force of gravity—they touch the earth lightly and are only too eager to rise again.

An interesting possibility for the puppet theatre might be an abstract concept of light, movement, sound, and color. The forms need have no representational shape. Here the only limitation is imagination.

There is a fund of material ready-made for puppets: legends, myths, fairy tales, science fiction and ghost stories. Many of the plays of Shakespeare are available in recordings challenging the puppeteer to make use of them. Especially suitable are the scenes with ghosts, witches, fairies, and elves to be found in *Macbeth*, *Hamlet*, *Midsummer Night's Dream* and *The Tempest*.

But let us suppose, for the purposes of this book, that we have selected as our subject the story of Persephone, the

Greek goddess of spring, who was abducted to the underworld and crowned Queen of Tartarus. This myth is ideal for puppets. It is fantastic, beautiful, and exciting, and there are endless possibilities for elaboration and invention. The story of Persephone, with its great variety of technical and aesthetic challenges, provides an ideal vehicle for the art of making and presenting marionettes. Puppets constructed by the methods shown here can, with minor variations, be adapted to many other characters and plays.

The cast for Persephone would be difficult to assemble in the living theatre. Where could we find a three-headed dog to take the part of Cerberus, the monster who guards the gates of Tartarus? How could we find an ordinary theatre big enough to accommodate a Greek chariot drawn by two black chargers and driven by Hades himself? Flowers that nod and speak, harpies that fly, and damned souls and demons are all wonderful subjects for the puppeteer. In addition, since our cast is made up of characters from the classical myths, our puppets have come full circle and are what they were in the beginning—little gods.

Instead of making a dramatic adaptation at once, thereby imposing limitations of cast, style, and movement, it is better to study the story we have chosen and decide just how simple or elaborate we wish to be; how large a cast of marionettes we intend to have, and how many people will be involved in the actual production. At this point it is wise to keep the play flexible; in fact the longer we delay in getting the writing set the more inventive



we can be within the framework of the story. During the construction of the puppets, ideas sometimes develop which can be incorporated into the production. For instance, suppose while we are working on the costumes for Persephone, a piece of chiffon suggests a ghostlike apparition. Fasten threads to it, attach the threads to a stick or control and there is a damned soul for Tartarus. Make some duplicates, spray them with luminescent paint, set up a black light, play some atonal music, and there is a splendid "danse macabre" production number, all evolved from a scrap of chiffon. If a more realistic ghost is desired, tie a ping-pong ball in the center of the chiffon for a head, attach some little clawlike hands to the corners, glue a wisp of feather to the head for hair (feathers make wonderful hair for mermaids, fairies, and ghosts), and there is an appealing little marionette all finished in no time at all.

The production of a puppet show should be worked on from many points of view at once—play, puppets, costumes, scenery, theatre, sounds and lighting effects—all gradually brought to completion simultaneously to form a harmonious whole. There is work for almost every talent—dramatists to write the play; those who are manually dextrous to make the heads, hands, and feet of the marionettes; woodworkers to cut out or carve the bodies and limbs; designers to create the costumes and scenery and coordinate them for color and style; electricians to figure out the best dramatic lighting and any special effects, such as lightning. Actors are needed to give voices to our cast, and if it is decided to have all the sounds on tape, someone to act as sound technician is essential. Carpenters must build the theatre. Finally, the puppeteer is needed to bring the marionettes to life and move them convincingly about the stage.

Should this long list of specialists seem rather forbidding, remember that

many puppeteers are able to perform all these functions alone, a sort of one-man impresario and production factory. The elements that make up a puppet show are so closely related that in a group effort an over-all coordinator or producer should be in charge. One of the most important problems is to make sure that everything is in the proper scale: the heads to the bodies and the completed puppets to the scenery and stage.

The number of marionettes to be used in one scene depends on the number of puppeteers available. One competent puppeteer can handle two puppets at once, but subtlety of movement generally requires two hands to a puppet. If animals and vehicles are to be used, such as the horses and chariot in Persephone, ample room in the wings of the theatre must be available for their entrance and exit. Space must be provided for the disposal of the marionettes when they are not in actual use on the stage, so a hanging bar must be placed within easy reach of the puppeteers.

The cast of characters must be tentatively chosen and their individual characteristics decided upon. Bearing in mind that the facial expressions of our cast never change except in the imagination of the beholder, it is important to have an idea of the personality of each puppet. In the story chosen here, the beautiful young goddess Persephone must not look too happy or too sad, as she is required to have both of these emotions in the play. Should Demeter be a character woman, an overly possessive mother who attempts to destroy all growth when her child is taken from her? Or is she the beautiful and voluptuous Goddess of the Harvest, ageless and appealing? Shall Hades be the villainous and ghastly King of the Dead, or is he the strong-willed hero in love and desperate?

A brief synopsis of the story should be written, breaking it down into

individual acts or scenes. For the story of Persephone, the following outline is helpful:

#### ACT 1.

The flower-filled meadow where Persephone likes to play. The scene opens with a dance of the flowers. A caterpillar enters and tells the flowers that Persephone is on her way to the meadow. The flowers talk of the great love Hades has for Persephone and how he has ordered the flowers to make Persephone pick the beautiful narcissus, which will enchant her so that Hades can carry her off to the Underworld. Persephone enters and is beguiled into picking the narcissus. Thunder and lightning and the sound of horses' hooves coming nearer and nearer. Persephone stands transfixed. Hades enters in his chariot drawn by two black horses. Great clap of thunder and flash of lightning. Hades scoops up Persephone and exits with a clatter of horses' hooves. The lights dim and the wind howls. Demeter enters and when she discovers what has happened to her daughter, she puts a curse on the flowers and they wither and die.

#### CAST FOR ACT 1:

Talking and dancing flowers  
Flower capable of being picked  
Butterflies  
Caterpillar  
Persephone  
Horses and chariot  
Hades  
Demeter

#### SPECIAL EFFECTS FOR ACT 1:

Thunder  
Lightning  
Flowers withering and dying

#### ACT 2.

Tartarus, the Underworld. The scenery should be in great contrast to the sunny meadow of the first scene, the colors cool and cave-like; there might be a



jewelled throne for Hades and his reluctant bride. During this scene it is established that Hades is trying to get Persephone to eat something, for if she eats in Tartarus she must stay there. Hermes, the messenger of the gods, comes to tell Hades of the suffering on Earth since Demeter has forbidden anything to grow while her daughter is away from her. All the gods are angry and there may be a war. Hades refuses to give Persephone up. In the meantime Hades has sent a servant to Earth to try to find some food for Persephone. He returns with a withered pomegranate and Persephone eats six seeds. Zeus, egged on by Demeter, orders Hades to release Persephone, but she cannot leave forever, as she has eaten the seeds, but must

return to Tartarus for six months out of every year, a month for each seed. It might be interesting to suggest that with the eating of the seeds, as in the eating of the apple in the Garden of Eden, innocence is lost, and possibly Persephone sees Hades in a different light and is not anxious to leave him. In any case Demeter feels she must mourn her daughter while they are separated and refuses to let the earth produce while Persephone is in Tartarus.

#### CAST FOR ACT 2:

Demons, damned souls, etc.  
 Servant to Hades  
 Hermes, messenger of the gods  
 Zeus  
 Demeter  
 Persephone

#### Hades

#### SPECIAL EFFECTS FOR ACT 2:

Danse macabre  
 Eating of the seeds

If it is desirable for Persephone to have a change of costume for the second act, it might be easier to make a duplicate marionette. It is almost impossible to make a complete costume change without tangling the strings. However, a cleverly designed snap-on drapery might be devised to fit over the first act costume.

From this general outline of action, cast, and special effects, an over-all idea of the scope of the production is anticipated. Now the work can be assigned, and the actual building of the show should begin.





There are countless ways of making puppet heads and almost as many books and articles explaining them. Puppet heads can be made of paper bags, tennis balls, and kitchen spoons; they can be meticulously carved from wood, modeled in clay, or made of papier mâché or bisque. The method shown here is for those who are willing to devote some time and effort to the project, but who have had little or no experience in modeling or sculpture. An acceptable head is possible at the first try; with practice, really beautiful heads can be made.

An ordinary light bulb is an ideal form on which to model the head. It is so close to the shape of a head that only the features need be added, leaving most of the bulb exposed. The bulb itself is not used in the completed puppet. A mold is made of the modeled form and a plastic wood head, cast from the mold, is the finished product. Most inexperienced artists tend to make their first heads dish-faced, but by modeling on a light bulb it is impossible to make that error. The size of the light bulb depends on the height of the puppet. A five-inch-high, 100 watt bulb is used here, which is the right size for an eighteen- to twenty-two-inch puppet and can be used for both male and female puppets.

#### MATERIALS NEEDED FOR MODELING AND CASTING THE HEAD:

One 5-inch-high, 100 watt light bulb, screwed into a socket which has been attached to a board  
Revolving modeling stand (optional)  
Wet modeling clay  
Fine sponge  
Clay modeling tools (as illustrated)

Sharp knife  
Liquid rubber casting compound  
Cloth strips (such as cheesecloth) cut on the bias  
Plaster of Paris  
Plastic wood  
Plastic wood solvent (or Duratite Wood Dough Solvent, which is better)  
Short length (about 1½ inches) of one-inch doweling, rounded on one end and with an opened screw eye in the rounded end  
About six inches of medium-weight wire  
Artificial jewels for sparkling eyes  
Pastels or colored chalk for blending eye shadow and cheek color  
Cotton for smooth blending of pastels  
Fixative  
Black or brown paint for eyelashes and eyebrows  
Light red nail polish for lips  
Paint—white rubber base or vinyl acrylic house paint. For flesh tone for a woman add a few drops of EZ Universal Tinting Colors: vermillion and medium yellow. For a man add a drop or two of vermillion, medium yellow, and Van Dyke brown. Buy a gallon of white and mix small amounts with EZ Universal Tinting Colors for scenery and props and all general use. For brown, mix flat black and vermillion

#### MODELING THE HEAD

Screw the bulb into a socket which has been attached to a board about six inches long and put it on a revolving modeling stand (Fig. 1), or place on a convenient flat work surface.

With the modeling clay, form the chin on the lower part of the bulb, just at the

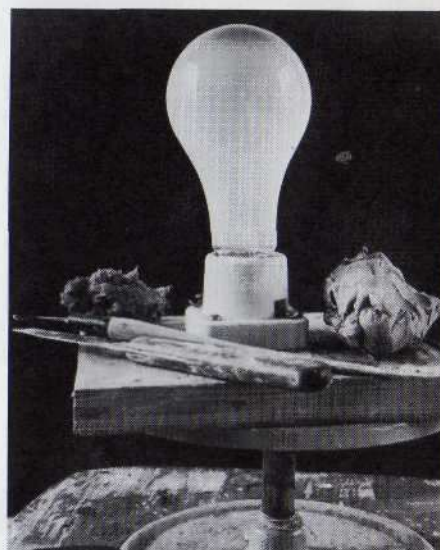


Fig. 1. Light bulb on revolving stand

curve for a female puppet, lower and heavier for a male (Figs. 2 and 3).

Cut a small wedge-shaped piece of clay for the nose and place it above the chin (Fig. 4). The nose should be smaller for the female, larger for the male (Figs. 5 and 6). Smooth with the modeling tool and wet sponge (Fig. 7).

Next, roll a small piece of clay between the fingers and apply it below the nose (Fig. 8). Cut horizontally to form the lips (Fig. 9). Model and smooth the mouth to the desired shape. For the heroine the lips should be small and delicate. Depending on the character, the man's lips may be strong and firm, Hades (Fig. 10), or fleshy and full, Zeus (Fig. 11).

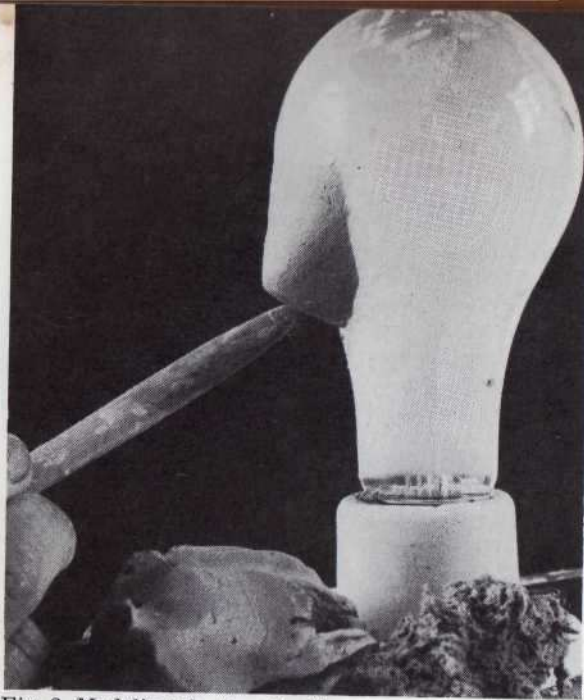


Fig. 2. *Modeling the female chin*

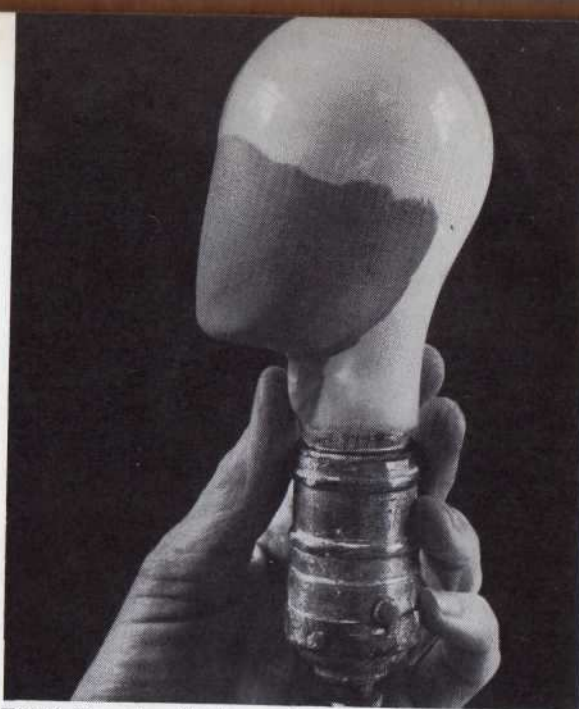


Fig. 3. *Heavier chin for male face*

Fig. 4. *Clay wedge for nose*

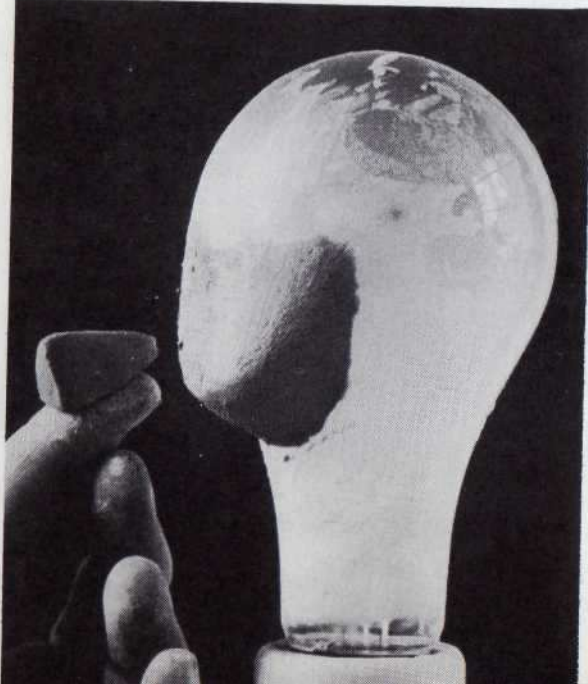
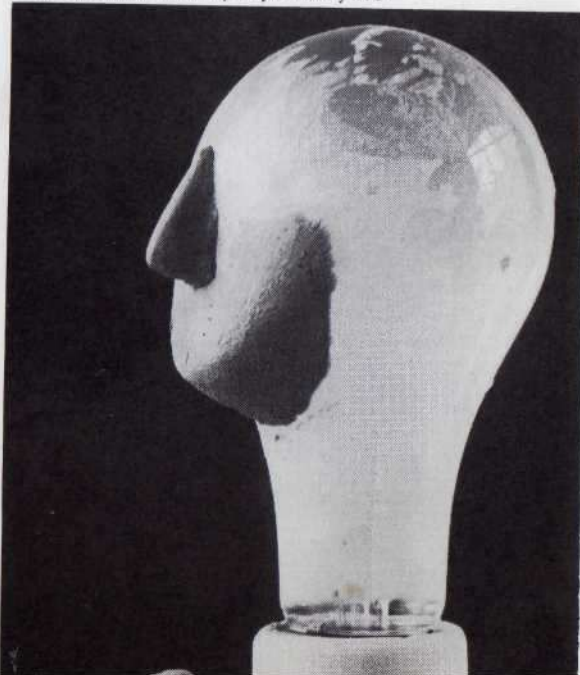


Fig. 5. *Smaller nose for female face*





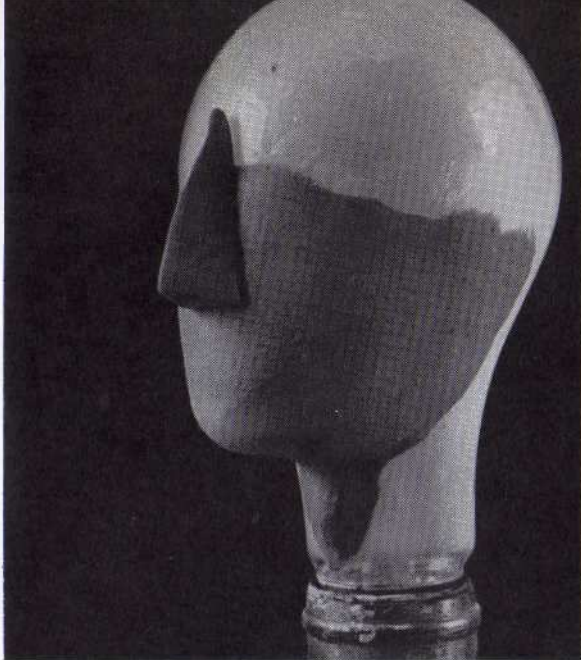


Fig. 6. *Larger nose for male*

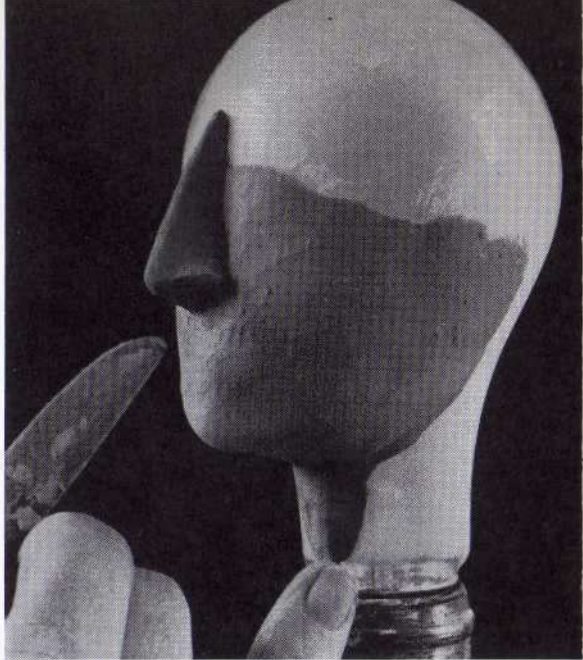


Fig. 7. *Modeling the nose*

Fig. 8. *Roll of clay for mouth (male face)*

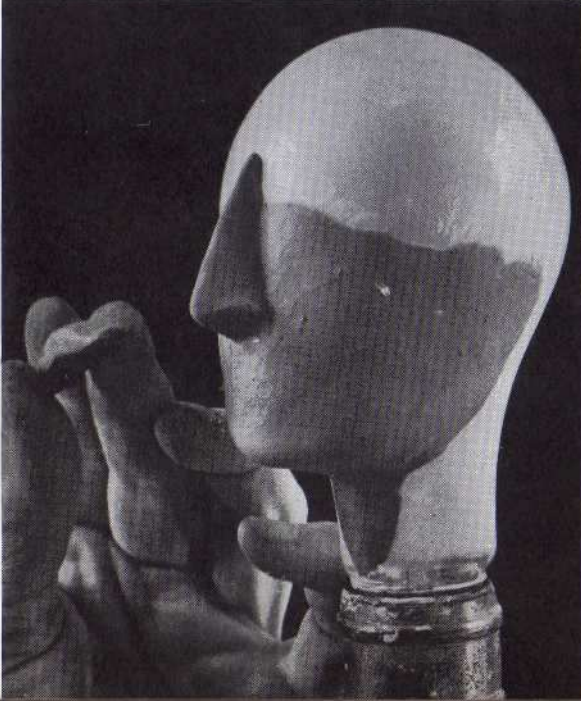


Fig. 9. *Horizontal line for lips (female face)*







Fig. 10. *Strong, firm modeling*

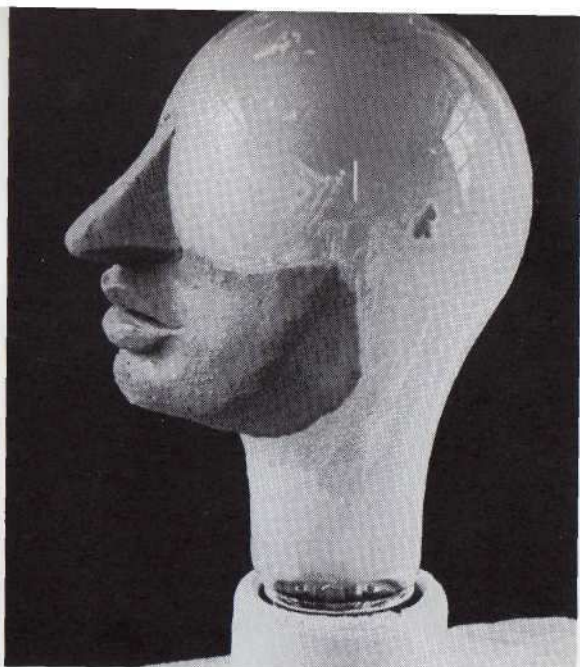
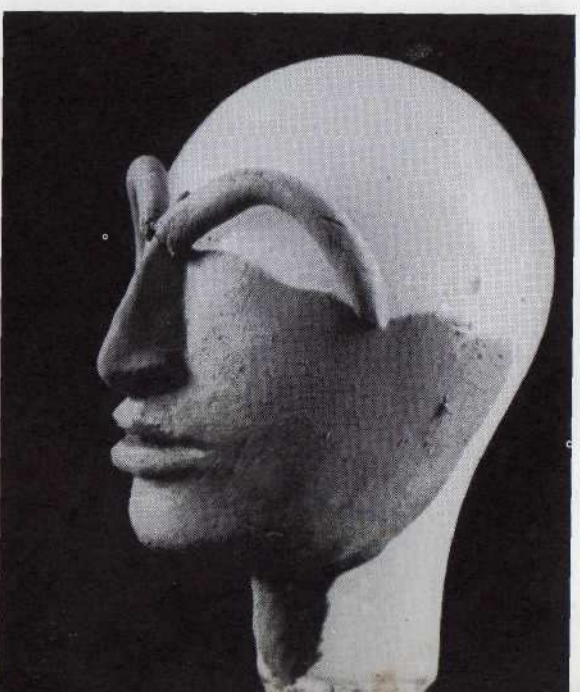
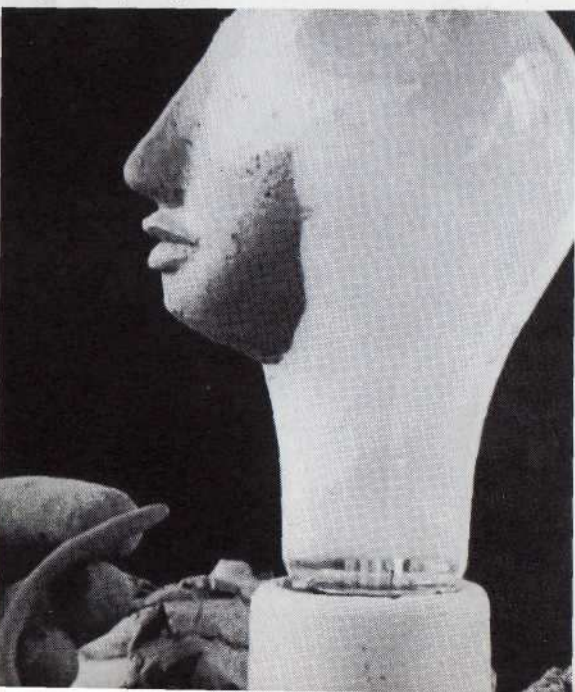
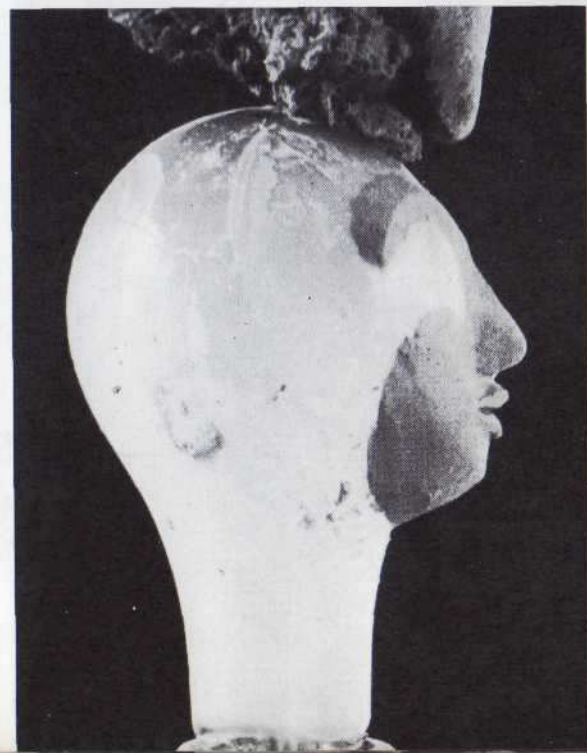
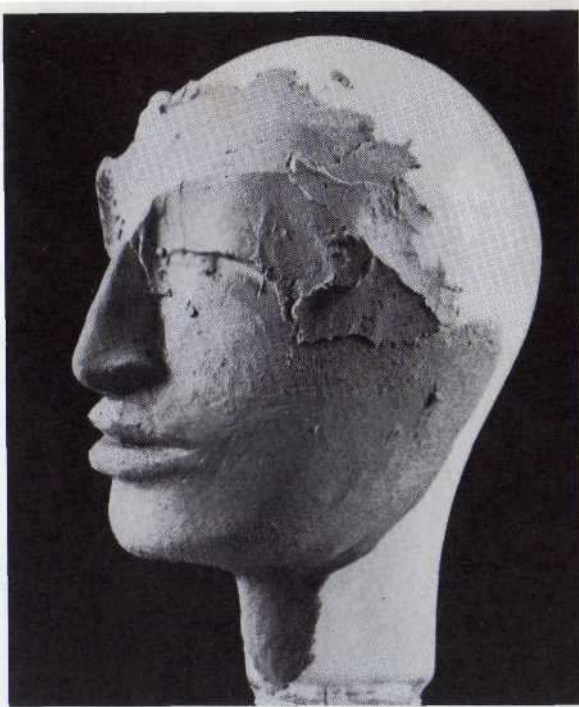
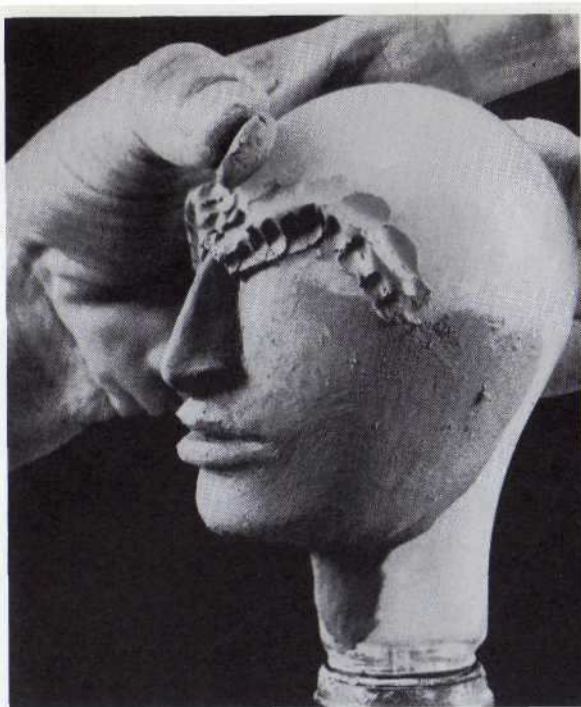


Fig. 11. *Fleshy, full modeling*

Figs. 12-17. *Modeling the eyebrows (male and female faces)*









Figs. 18 & 19. *Clay rolls for female and male eyelids*



Now, roll the clay into a long worm shape; cut it in half and place it above the nose in arches for eyebrows. Blend it, adding more clay as needed to make a smooth brow (Figs. 12-17). Eyebrows are heavier for the male face and lighter for the female.

Add other small worm-shaped pieces of clay under the brows for eyelids (Figs. 18 and 19). Lower lids are not necessary, as they will be painted on the finished head. Smooth and blend as before (Figs. 20-23), lighter for female eyes, heavier for male.





Figs. 20-23. *Modeling the eyelids*





Fig. 24. *Rolling ball of clay for ears*

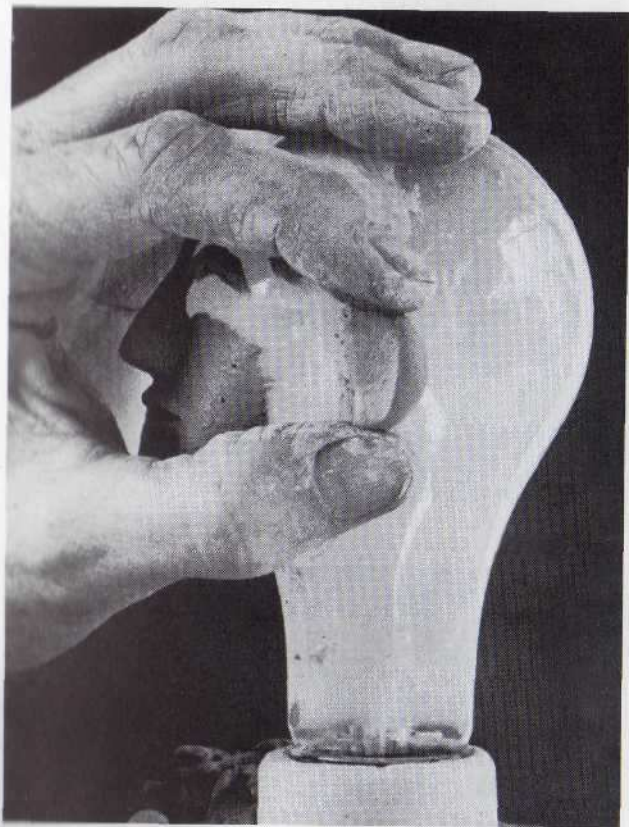
Next, roll a ball of clay between the fingers and squash it into a saucer shape (Figs. 24 and 25). Cut the disc in half and place the pieces on either side of the head for ears (Figs. 26-28). Puppets do not always need ears. Zeus is made without them, as his hair would hide them anyway.

The head is now finished; examine it carefully from all sides, and make any changes that seem to be desirable, adding bits of clay or removing small amounts (Figs. 29-31).



Fig. 25. *Squashing to a saucer shape*





Figs. 26-28. *Placing and modeling the ears*



Figs. 29-31. *Examining the finished head*

Three heads are shown here to illustrate three different types of characters, Persephone, Hades, and Zeus. It is not suggested to model three or four heads at the same time, as there would be too much danger of the clay drying out before one got to the casting. It should not take more than 45 minutes to model a head by this method. It is important to take the first step of making the mold during this session so that the clay will not have a chance to dry.



#### MAKING THE MOLD

Paint the whole head with liquid rubber mold compound, being careful to brush out any bubbles. Be sure to cover the whole light bulb. This will seal the clay from the air and keep it moist. The liquid mold compound takes a considerable time to harden sufficiently to add the next coat, so this is a good time to leave the work until the next day (Fig. 32). The time varies with the type of compound, from 15 minutes to 12 hours; follow directions on the bottle.

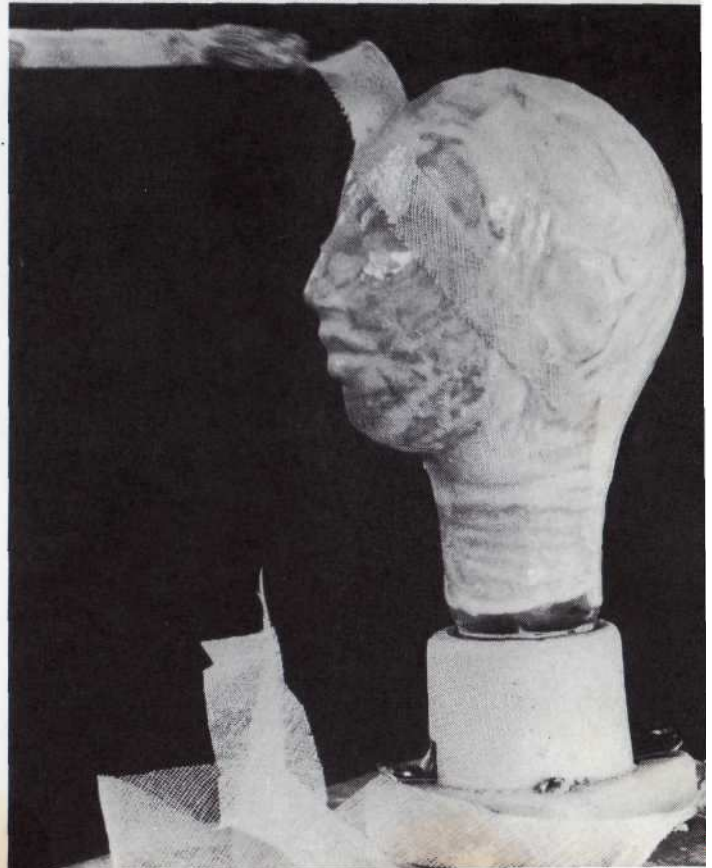
When the rubber compound feels dry to the touch, add another coat and set the head aside to dry. The time may be shortened somewhat by placing the head in the sun or near some source of mild heat. While you are waiting, another head might be started or parts of the body cut out and assembled. When the third coat of rubber is applied, start winding the strips of bias-cut cloth around the head, sealing each strip with more rubber (Fig. 33). Wind the cloth first in one direction and then in another, overlapping, until the whole head is completely covered with at least two layers of cloth, always adding more rubber before and after each layer. There are several types of liquid rubber mold compounds on the market, so be sure to read the directions carefully and follow them. When the rubber mold is completed, generally about five layers including the cloth, set the head aside to dry for at least 24 hours.

To carry out the following steps, it may be easier to remove the bulb from its socket. Be sure the rubber is completely dry. Cut the rubber mold in half with a very sharp knife or razor blade, being careful to cut around the outside rim of the ears (Fig. 34). Peel the back part of the mold from the light bulb and lay it aside or put it on another light bulb (Figs. 35-37).



Fig. 32. *Painting the head with liquid rubber*

Fig. 33. *Applying cloth strips with liquid rubber*



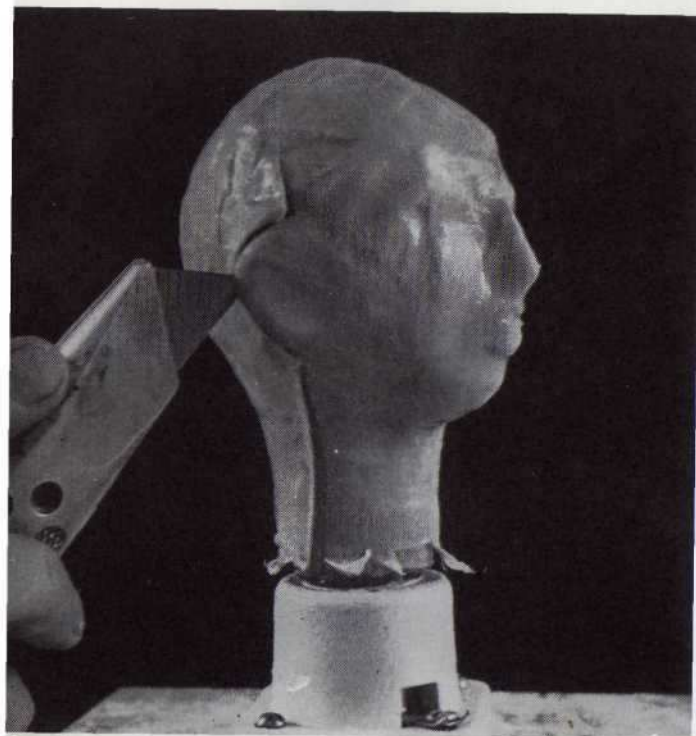
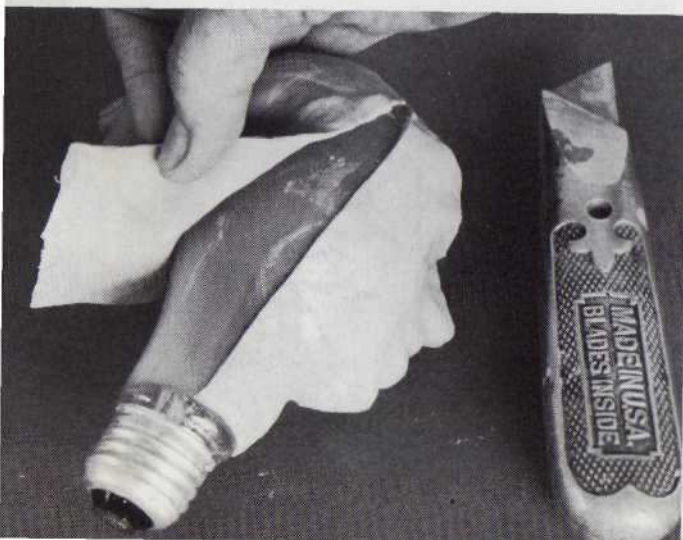


Fig. 34. Cutting the rubber mold in half



Figs. 35 & 36. Removing the rubber mold from the light bulb





Fig. 37. *The divided mold*

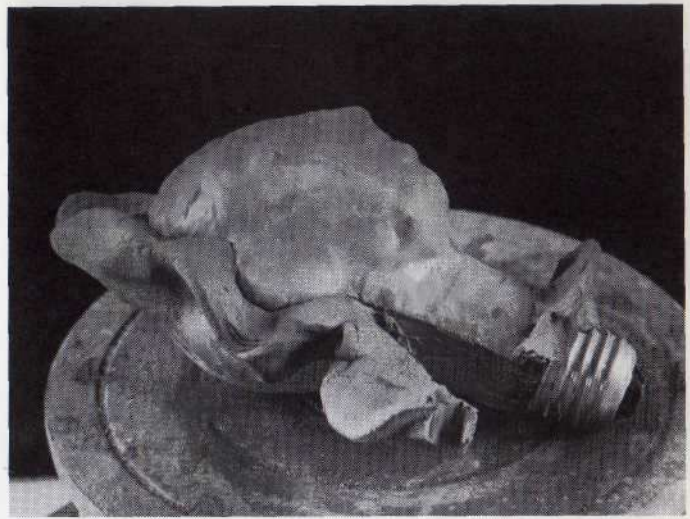


Fig. 38. *Building a clay dam*

Because the rubber mold is so thin and flexible, it is necessary, before casting from it, to make a plaster of Paris backing for it so that it will keep its shape. If one is not used to working with plaster of Paris, it will probably be better to build a clay dam around the rubber mold to maintain the cut edge (Fig. 38). Mix a small amount of plaster of Paris, adding the plaster to the water until it stands in mounds above the water. Do not stir until all the plaster is added; then stir until it is thick enough to handle without dripping. Smooth it quickly onto the outside of the rubber mold (Fig. 39). If the plaster sets too fast and becomes too hard to handle, discard it and mix up a new batch. When one becomes adept at handling thick plaster of Paris, the clay dam will not be necessary (Fig. 40). Trim the plaster even with the rubber mold (Fig. 41).

When the plaster backing has become hard and cool, gently pull it away from the rubber mold and then carefully peel the rubber mold from the bulb (Fig. 42). Clean off the light bulbs and set them aside for the next head.



Fig. 39. *Spreading plaster on outside of mold*



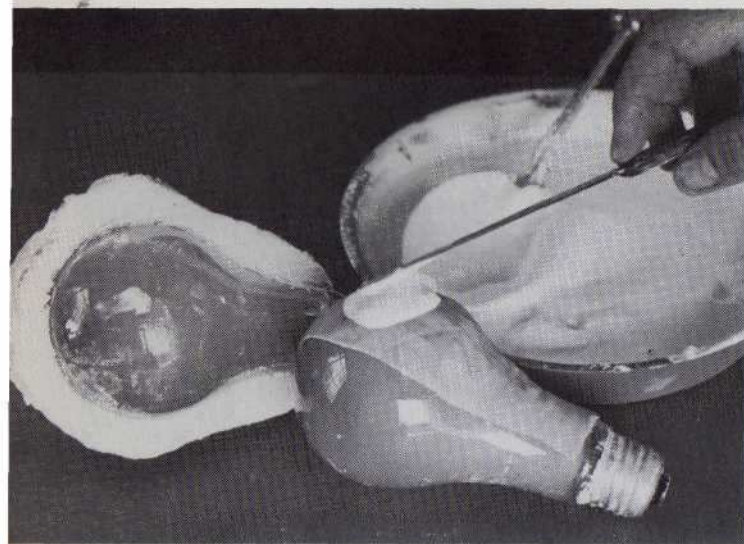


Fig. 40. *Applying plaster without clay dam*

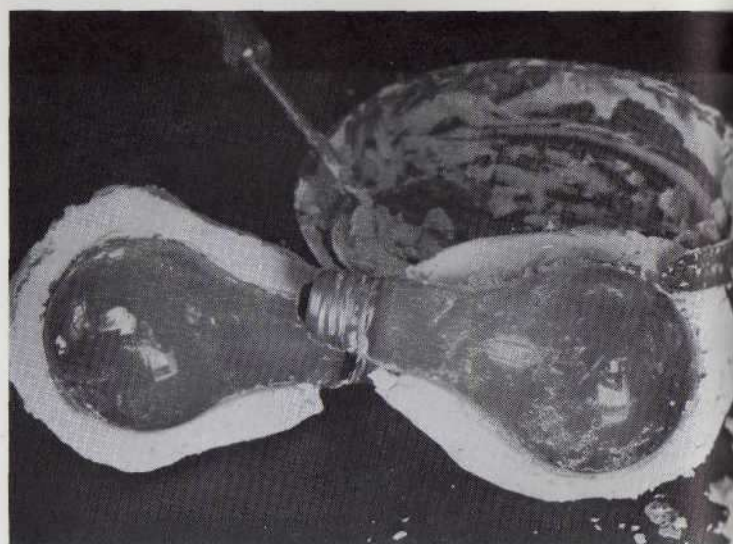


Fig. 41. *Trimming the plaster*

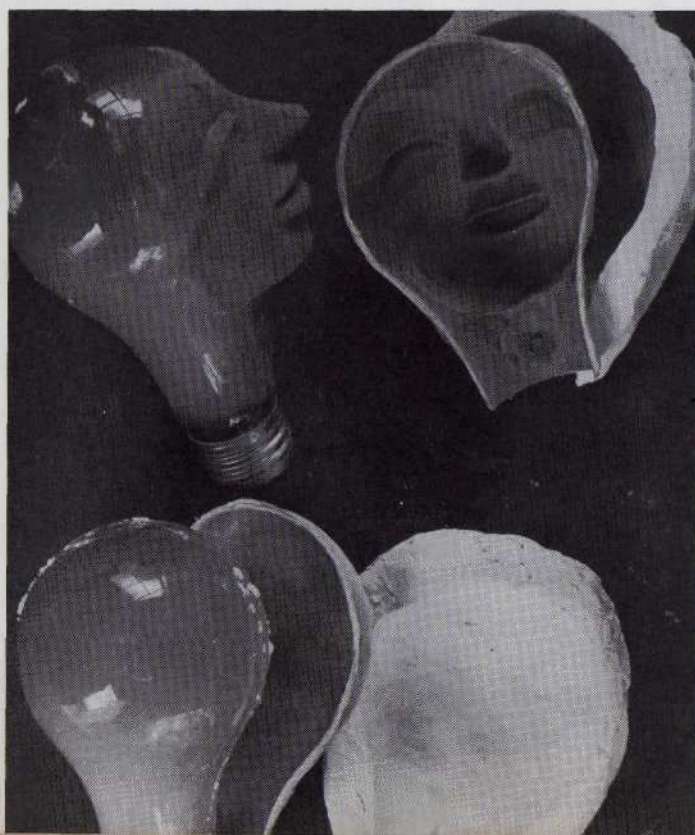


Fig. 42. *Rubber molds and plaster separated from the bulbs*



#### CASTING THE HEAD

Place the divided rubber molds back into their supporting plaster of Paris backings, and line them with a thin layer of plastic wood (Figs. 43 and 44). Use plenty of solvent to keep the plastic wood pliable, and press it into all the crevices. Dip the forefinger into the solvent and work the inside of the shell to make an even coating of plastic wood, no more than an eighth of an inch thick. When the plastic wood is completely dry it is almost unbreakable. When both front and back shells have been completed, set them aside to harden in their molds for at least 24 hours. During all these waiting periods more-work can be done on the bodies of the puppets.

When the shells of plastic wood are hard and dry, gently remove the plaster of Paris supports and peel the rubber molds away from the plastic wood shells (Fig. 45). These molds may be used over and over for additional heads, so be sure to keep them. They may be stored over extra light bulbs to retain their shapes.

Next, fit the doweling with the opened screw eye into the neck of the plastic wood shell and seal it with fresh plastic wood (Fig. 46). Join the two halves of the head, using fresh plastic wood to glue them together. Hold them together with elastic bands until they are dry (Fig. 47). Fill all irregularities with fresh plastic wood, and after this has dried sand the head smooth (Fig. 48).

This method of casting may seem rather complicated, but it has many advantages. The elasticity of the rubber mold allows for details and minor undercuts in the modeling, and it is easy to remove from the original light bulb model. A plaster of Paris piece mold is not required, so wooden frames or forms for pouring liquid plaster are not needed. The plaster of Paris spread on the back of the rubber mold for support is so thick that it can be handled with relatively no mess. No separators are

needed anywhere along the line. Plastic wood for the finished head is light and exceedingly strong. When the two halves of the head are put together with fresh plastic wood, the seam is as strong as the

head. Plastic wood is a rather sticky medium to work with, but it can be worked over, added to, and sanded and scraped for as long as is wished or until the patient craftsman has achieved his goal.



Figs. 43 & 44. Lining the two halves of the mold with plastic wood





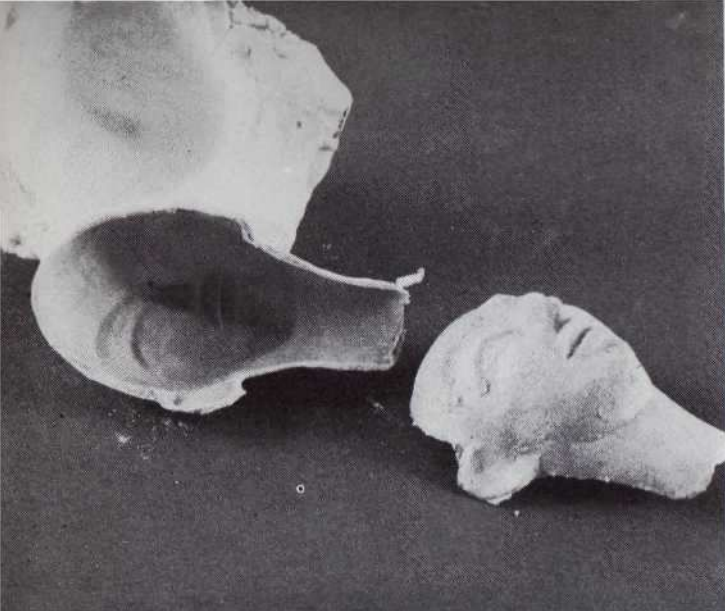


Fig. 45. Removing the plastic wood shell from its rubber mold and plaster support

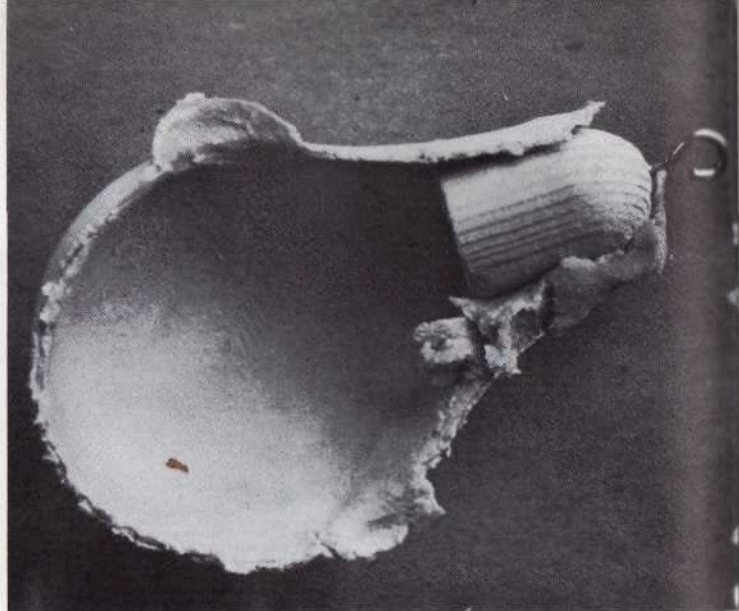


Fig. 46. Sealing the dowel into the neck



Fig. 47. Fastening the two halves together



Fig. 48. Sanding the head



#### FINISHING THE HEAD

Now, hang the head by the screw eye from a dowel or other support, and paint the whole head with an attractive flesh tone (Fig. 49). After this has dried, carefully color the cheeks with actual dry rouge or vermilion pastel, blending with a piece of cotton and fixing the color with fixative or mat plastic spray. Paint on the eyes, eyebrows, and lips (Fig. 50). Nail polish is attractive looking for the lips. Enamel is used for the eyes to give them a shiny look.

The wigs and beards of the puppets in the photographs are made of fringe which is glued right onto the heads. Persephone has golden hair; her mother, Demeter, white; and Hades' beard and hair are black. It is a good idea to paint the hair and beards on the puppets before adding the fringe, so that the puppets won't have a bald look if the fringe separates (Figs. 51-57). Zeus' glittering wig and beard are made of a metal pot scourer (Fig. 58).

After the hair has been tentatively styled and sewn in place, hold the head between the fingers or with calipers to find the best balance for hanging. In the case of Persephone and Demeter, with their heavy pony tails, it was found that the heads balanced best if hung from behind the ears, so Persephone does not really need ears at all. Hades' head hung best from the ears. When the point of balance has been discovered, drill a hole right through the head at that point, insert a length of wire, and make loops close to the head. The strings attached to these loops will support the whole puppet when it is finished, so be sure the head hangs correctly from them.

As a final touch to make Hades and Zeus more godlike, little holes were drilled in the pupils of their eyes and blue or emerald jewels were glued in them (Figs. 53 and 58).

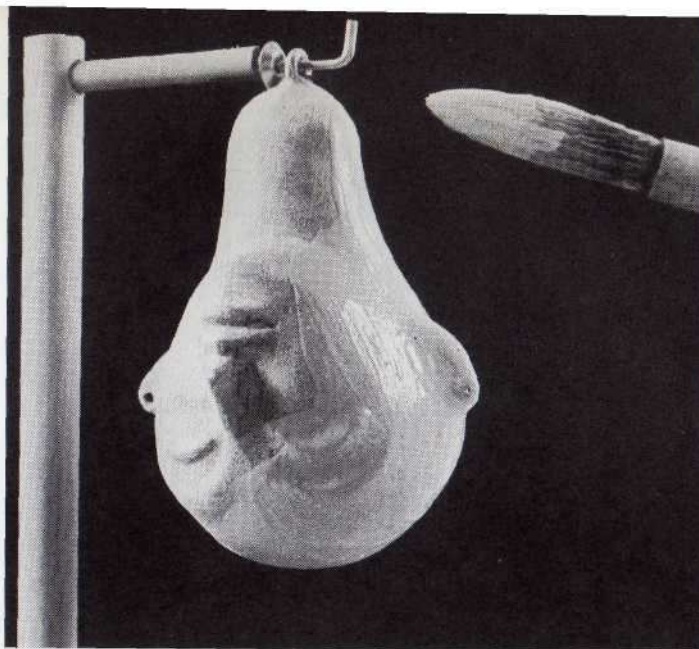
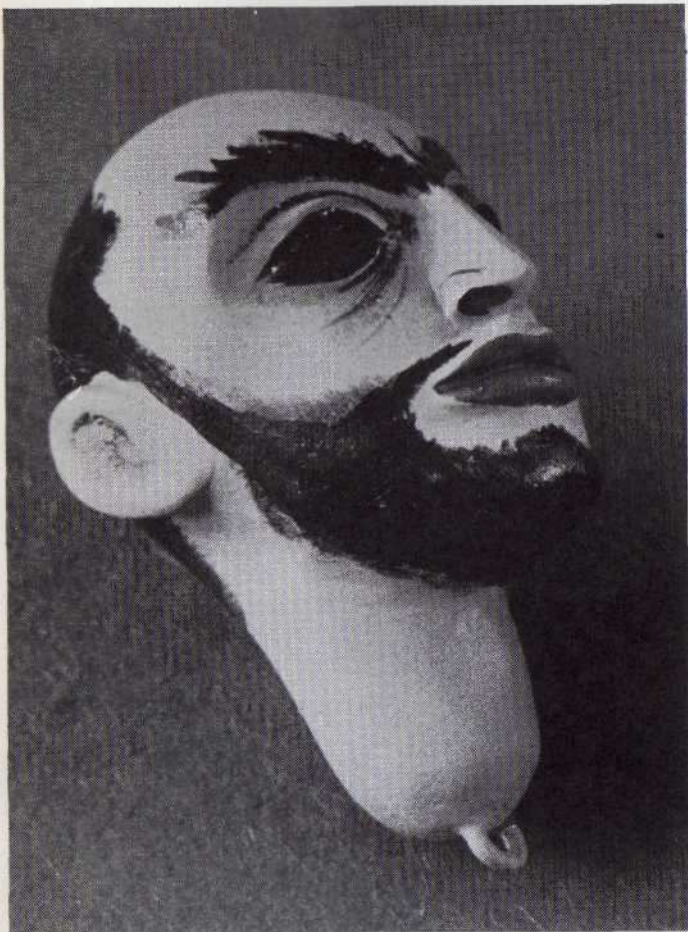


Fig. 49. *Painting with flesh color*

Fig. 50. *Adding the features*







Figs. 51-53. *Making wigs and beard from fringe for Hades*







Figs. 54 & 55. *Making wig  
for Demeter*















Figs. 56 & 57. *Finished wigs for Persephone (left) and Demeter.*





Fig. 58. Wig and beard from metal scourers (Zeus)



### 3 Making the Bodies

#### MATERIALS NEEDED:

Sheet lead  
Screw eyes  
Screws  
Wire  
Twill tape  
Shoe laces  
Cord  
Glue  
Tacks  
Wood dough or plastic wood  
Plywood ( $\frac{1}{8}$  inch thick)  
Pieces of wood of various sizes (see  
Diagrams)  
Balsa wood  
Doweling  
Swivels

In order to produce the lifelike movements that lend such a feeling of dramatic excitement to marionettes, their bodies must be made of a number of loosely joined parts. Besides the head, the torso and the hips are constructed separately. Arms and legs are assembled from upper and lower parts, hinged at elbows and knees for maximum action, and hands and feet are weighted. Although the general procedure for making and assembling the parts is almost the same for male and female figures, there are a few differences in size and shape of some of the parts.

Step-by-step procedure for making the bodies is explained on the following pages with line diagrams giving directions for cutting out the various parts (Fig. 59) and illustrations showing the finishing and joining of all the parts to make the completed body.

For many puppet characters it is possible to make the simple puppet body shown in Diagram 1. This type of puppet

is particularly adaptable for both male and female figures whose bodies are to be fairly well covered by their clothes. The Greek costumes for the story of Persephone expose the arm and leg joints, however, so the more advanced type of puppet construction explained in this chapter was advisable.

The bodies of string puppets must be weighted in the hands, feet, and hips for proper balance and ease of manipulation.

If the hands are too light they have a tendency to float about, and it is difficult to guide them in definite gestures which may be necessary to the play. A marionette cannot walk properly if the feet are light. The puppeteer must feel the feet touch the floor of the stage, for only then can he control the other necessary movements with any degree of conviction. The hips must be weighted if the puppet has to sit down. To make a

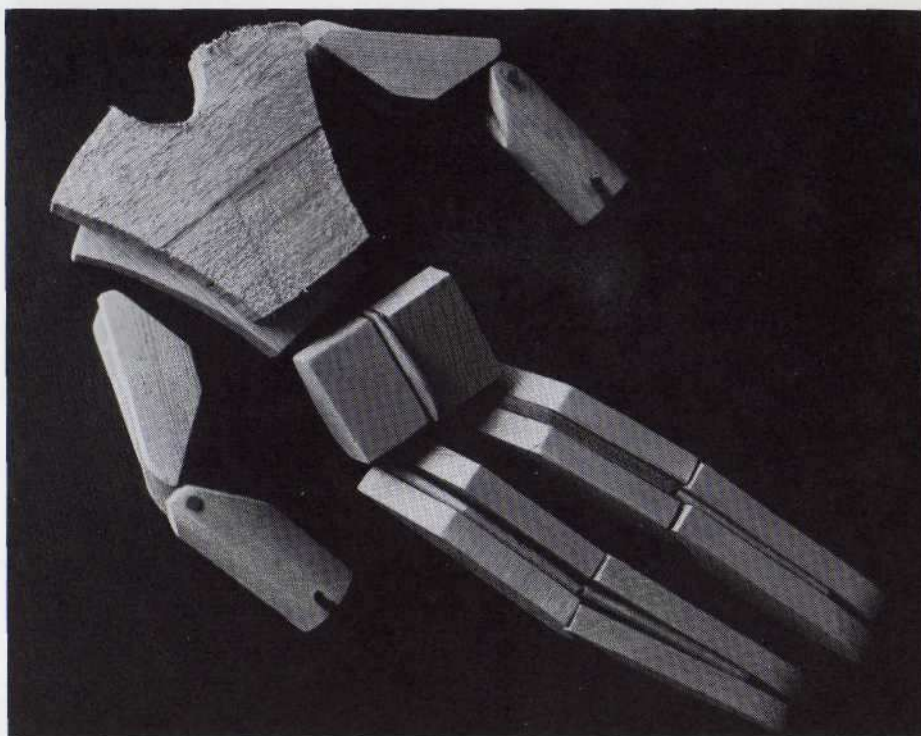


Fig. 59. Completed cut-out assembly for male figure

puppet sit, the puppeteer merely lowers the control (Fig. 104, p. 66); without weighted hips, the puppet just falls to his knees, with his stomach out, when the control is lowered. A fine method for making hands and feet that are good looking as well as weighted is to cut them directly out of sheet lead, bend them into the desired shape, and flesh them out with wood dough or plastic wood.

#### THE TORSO

Following the directions in Diagram 2, cut out the two blocks for the torso: one of pine (the back), the other of balsa (the front). On the pine block, place marks for the shoulder and neck swivel grooves, to which the head and arms will be attached later, and carve them out (Figs. 60 and 61). (The little swivels for the neck and shoulder joints are to be

found in any fishing supply store and in most hobby shops. The size shown in Diagram 2 is number five, but this is not critical, and a little larger or smaller would make no difference. Sometimes a little clip is attached to the swivel; just cut it off with wire cutters.) When the swivels are tacked in place at the shoulders, be sure that they stick out far enough for the arms to fit over them

DIAGRAM 2: MAN'S TORSO ASSEMBLY

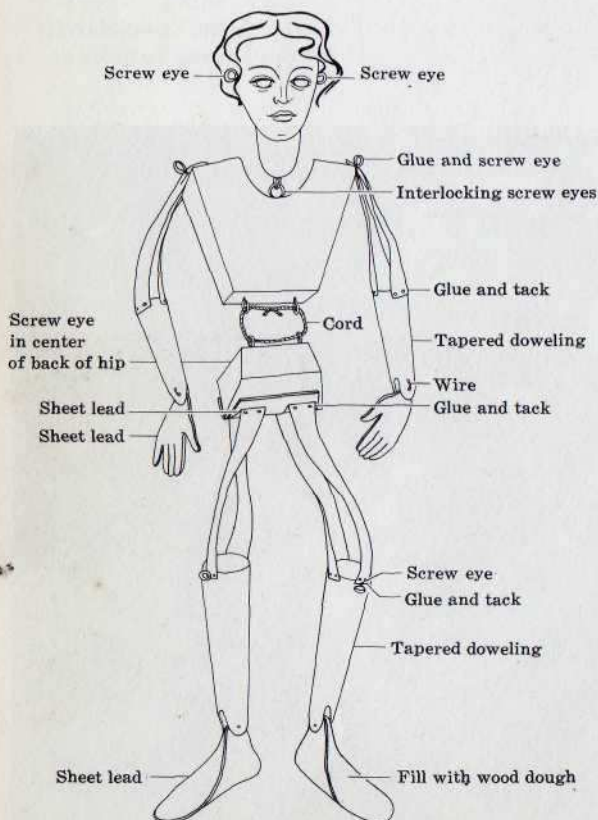
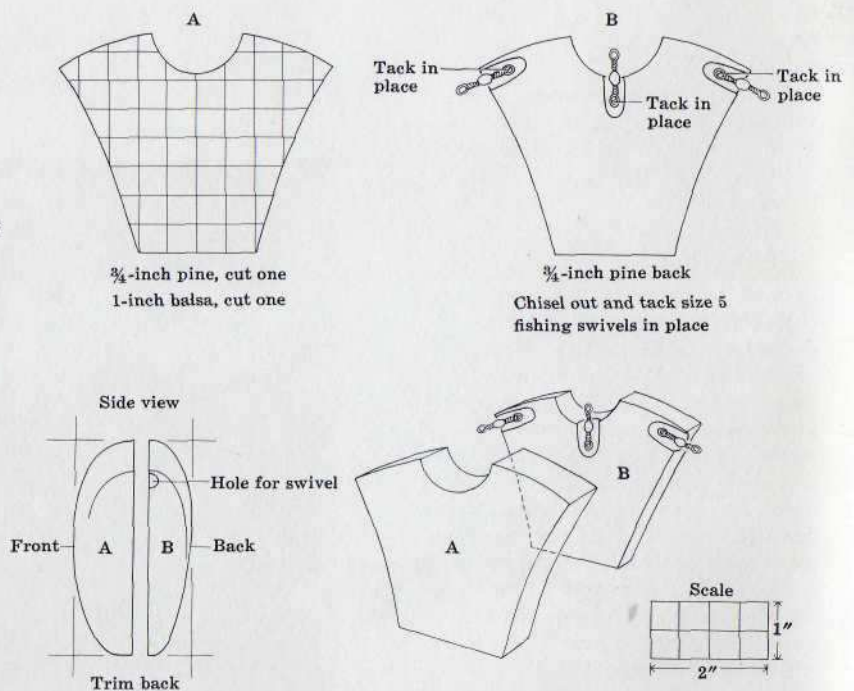


DIAGRAM 1: A VERY SIMPLE PUPPET—  
6 1/4 HEADS





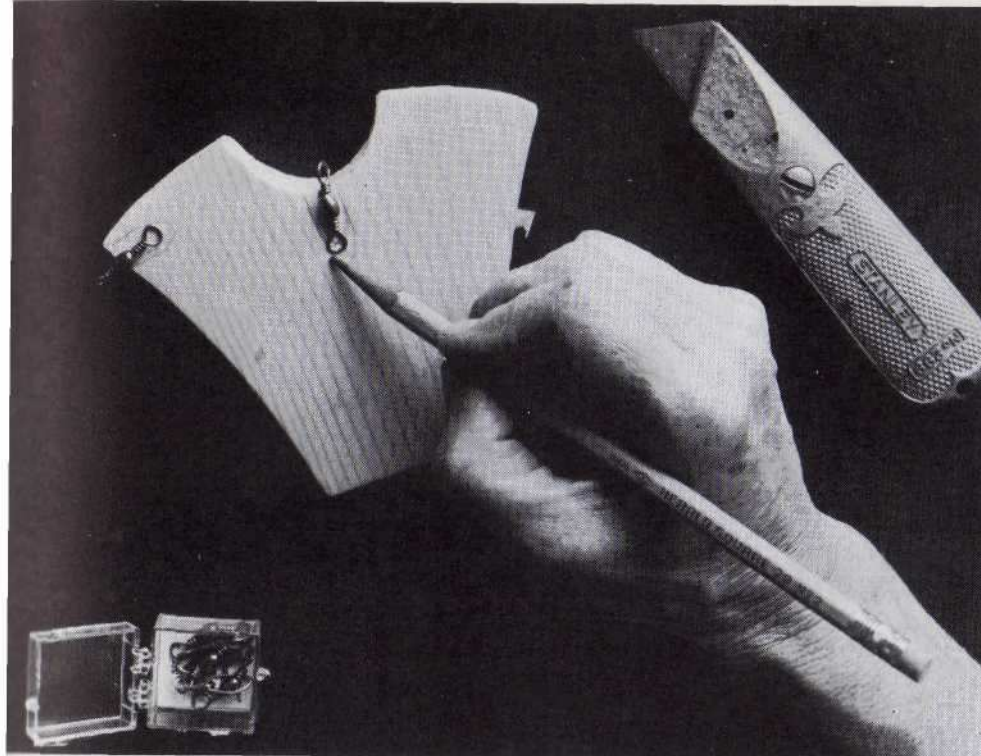
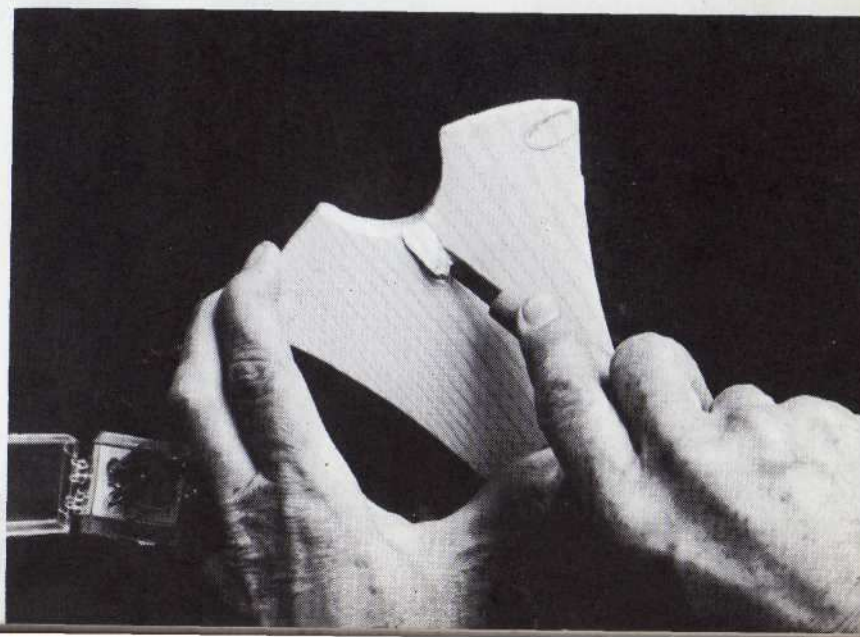


Fig. 60. Marking pine wood torso block for neck and shoulder swivels

Fig. 61. Carving grooves for neck and shoulder swivels



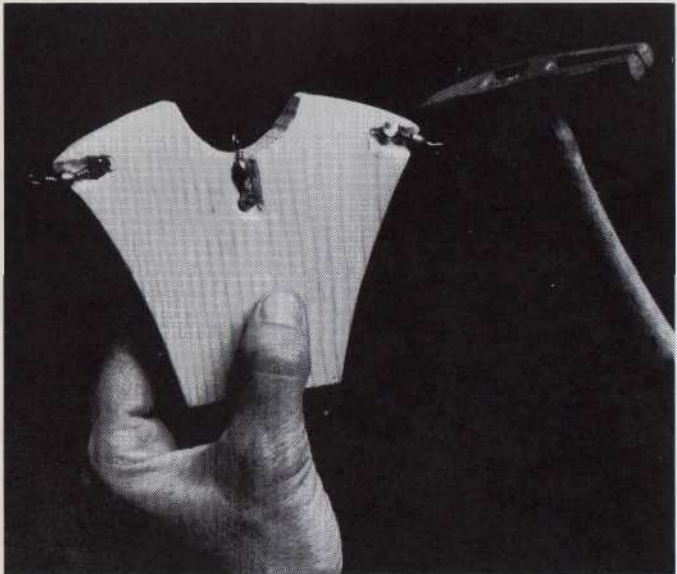


Fig. 62. *Tacking swivels into torso block*

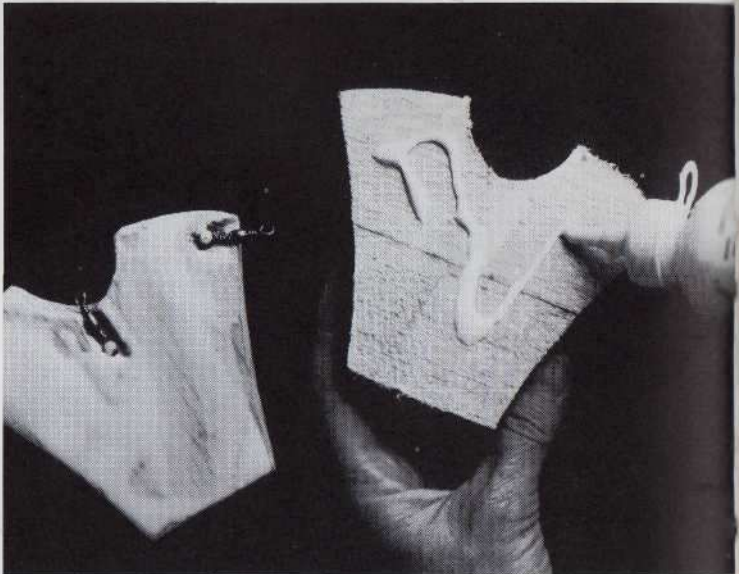


Fig. 63. *Applying white glue to join torso blocks*

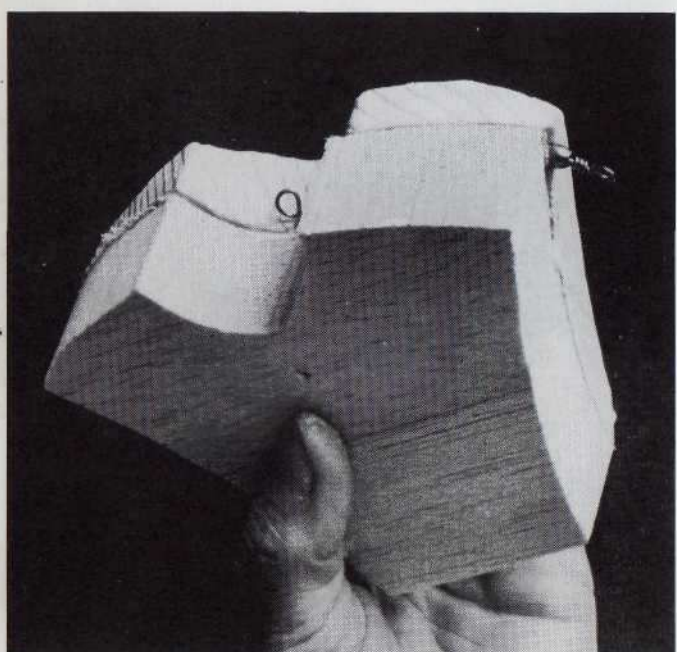


Fig. 64. *Torso blocks joined with swivels protruding*



Fig. 65. *Shaping front (balsa wood) side of torso with knife*



(Fig. 62). Apply white glue to the inner surfaces of both blocks, and press them firmly together, with the swivels protruding at shoulders and neck (Figs. 63 and 64). The torso should be held together in a clamp until the glue is thoroughly dry. The soft balsa wood front of the torso may be rounded off and finished with a knife (Fig. 65) and later sanded.

#### THE ARMS

Next, following instructions in Diagram 3, cut out the three-piece upper arm assembly. Apply white glue to the four inner sides to be joined (Fig. 66), and place the arm in a clamp to dry (Fig. 67).

A and C are  $\frac{1}{2}$ -inch thick pine  
B is  $\frac{1}{4}$ -inch thick plywood  
D is 1-inch thick pine dowel

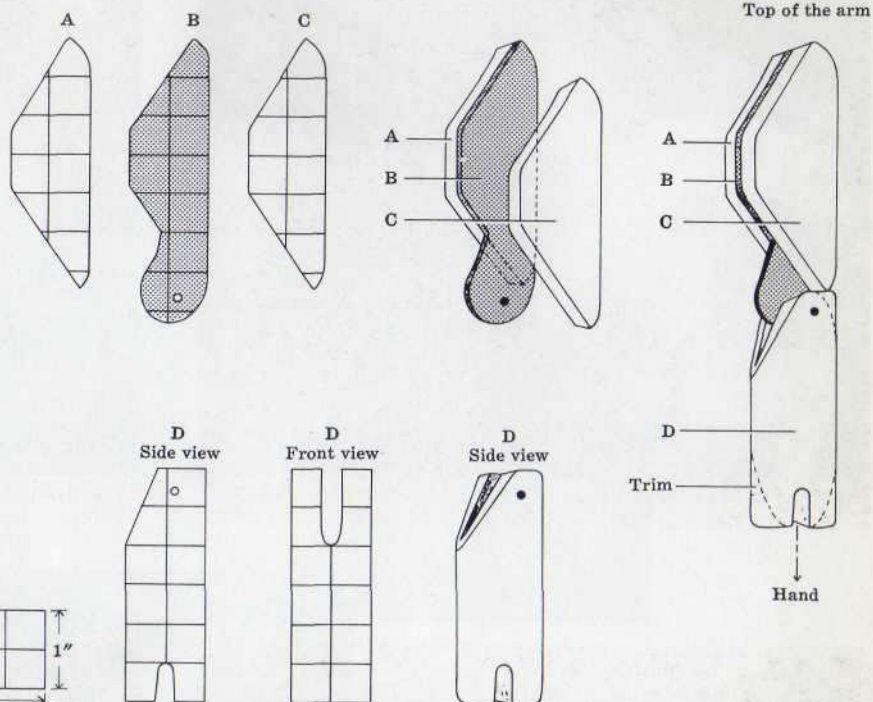
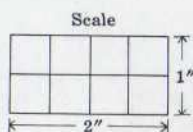


Fig. 66. Glueing together three-piece upper arm assembly



Fig. 67. Placing upper arm assembly in clamp to dry

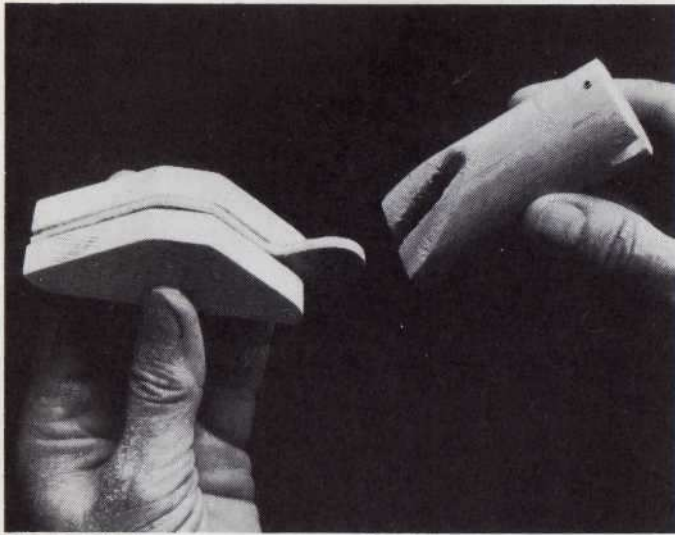


Fig. 68. *Fitting lower arm to completed upper arm*

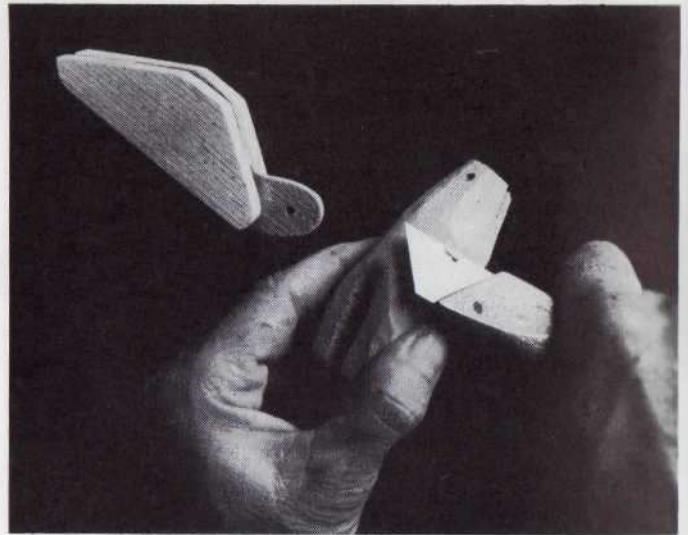


Fig. 69. *Finishing lower arm with knife*

Cut the notched dowel for the lower arm as indicated in the diagram, and try it for proper fit to the upper arm (Fig. 68). Finish the lower arm with the knife as illustrated (Fig. 69). (The knife used here is a Stanley No. 199 with extra blades. Fresh, sharp blades are necessary, especially in carving balsa. Any similar knife with extra blades will do—such as an X-acto knife.)

Next, drill a hole in the upper arm large enough for the shoulder swivel in the torso to fit into easily, and notch the sides of the hole for the joining wire to fit into (Figs. 70 and 71). Secure the torso swivel to the upper arm with a small piece of wire placed crosswise through the swivel opening into the notch (Fig. 72), and fill in the notch with plastic wood (Fig. 73).

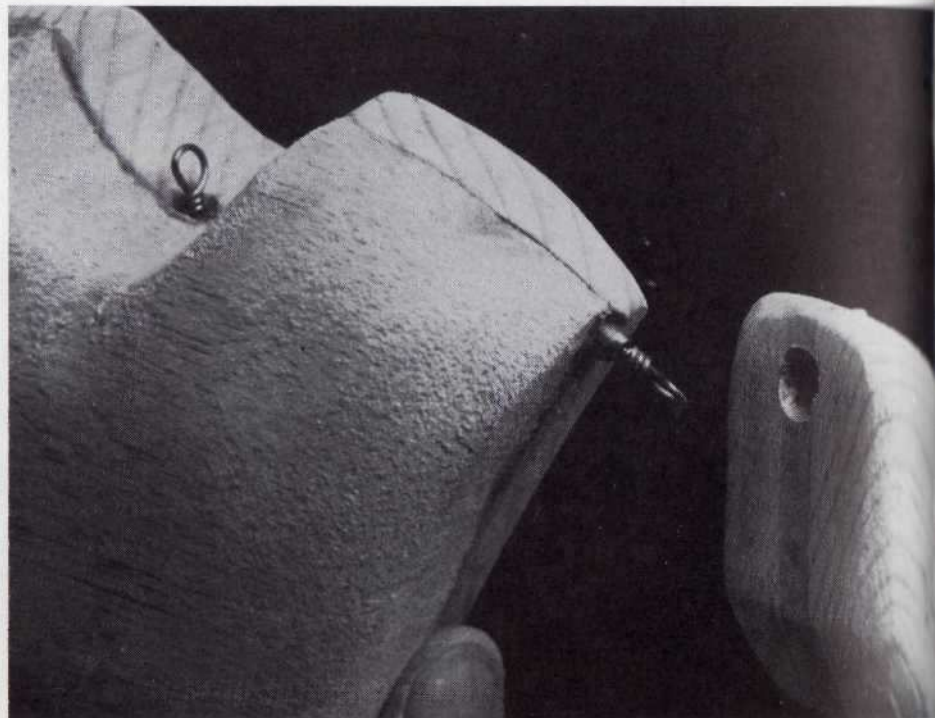


Fig. 70. *Hole is drilled in upper arm for attaching to shoulder swivel*



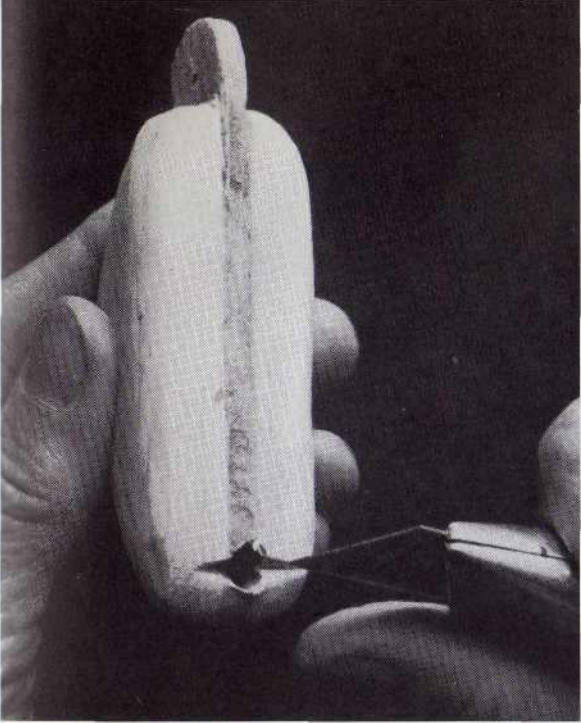


Fig. 71. *Notching sides of hole in upper arm*

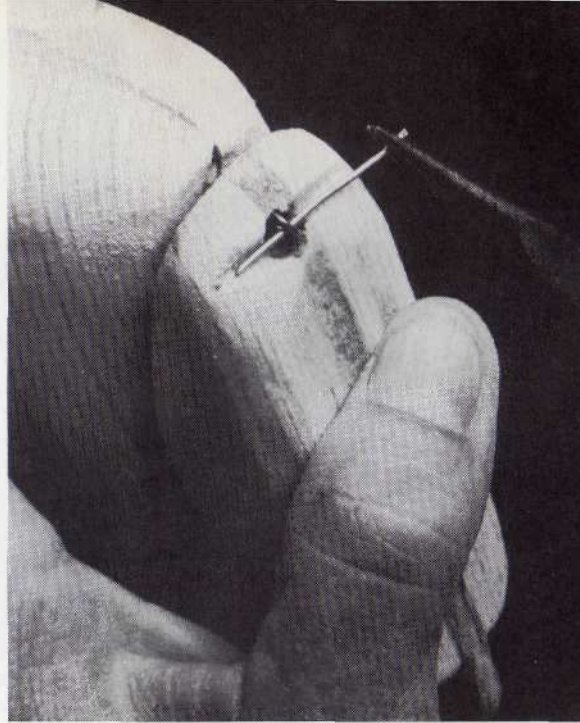


Fig. 72. *Securing swivel to upper arm*

Fig. 73. *Filling notch with plastic wood*

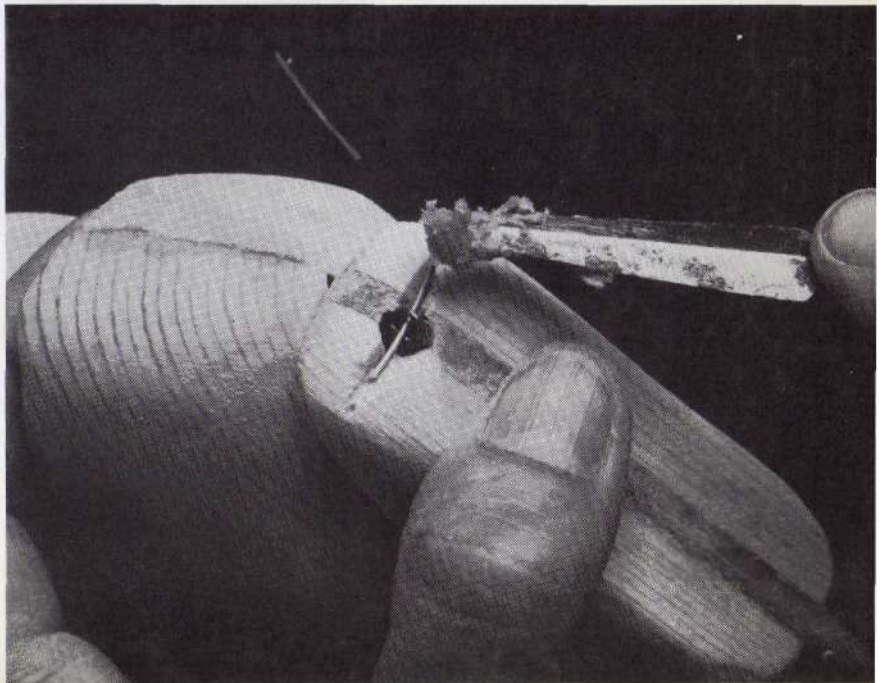




Fig. 74. Carving notch at hole in lower arm

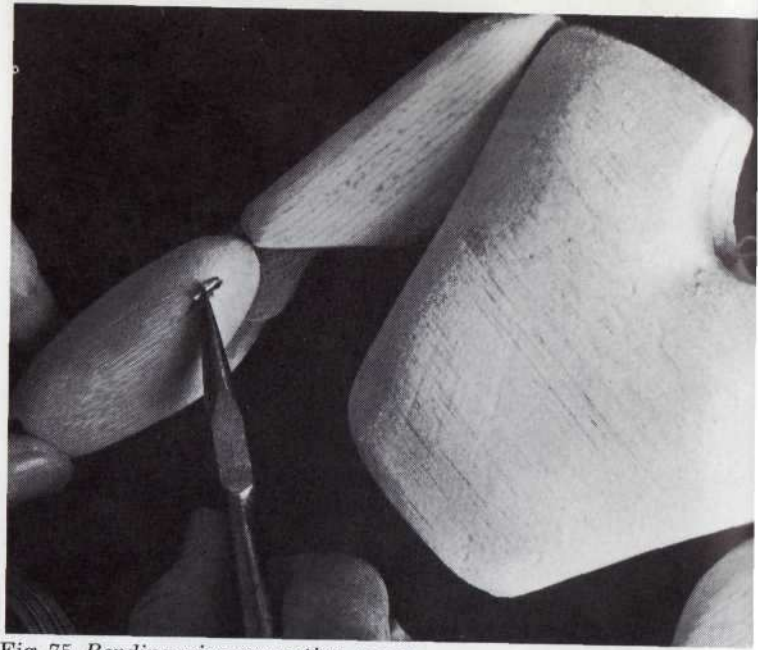


Fig. 75. Bending wire connecting upper and lower arms joints into notch

Now, drill a hole through either side of the groove in the lower arm and through the tongue of the upper arm for the wire that connects the two parts of the arm to pass through. As before, carve notches at the holes on both sides of the lower arm for the wire to bend into (Fig. 74). Join the upper and lower arms by running the wire through the holes and bending the ends into the notches. Cover the notches with plastic wood (Figs. 75 and 76). All points that are connected with wire, including the ankles and wrists (Figs. 94 and 95, pp. 58-59), should be finished in this way.

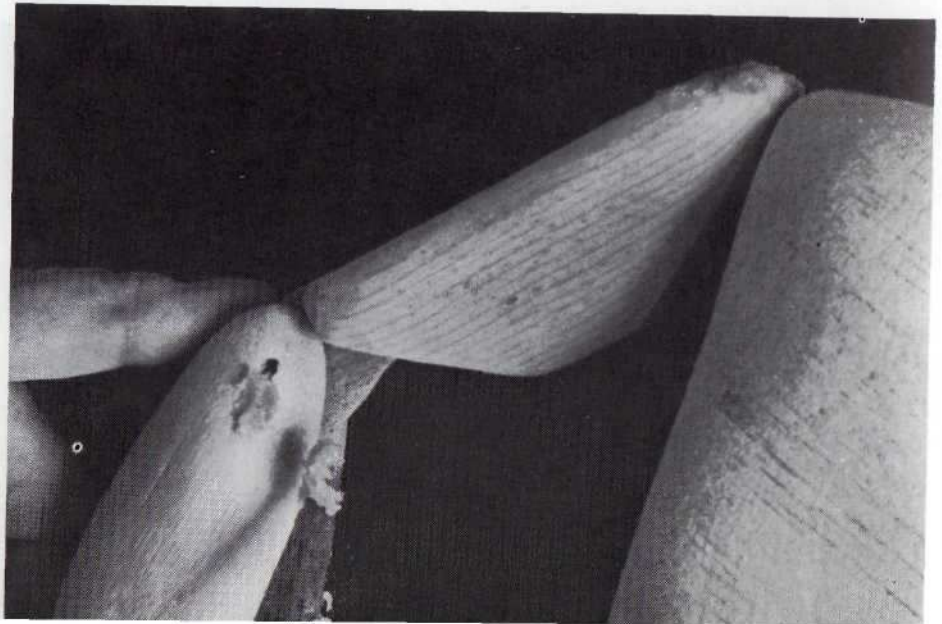




DIAGRAM 4: HIPS FOR MAN OR WOMAN

## THE HIPS

Following the directions on Diagram 4, cut out the two pine wood, two sheet lead and plywood parts that make up the hip block. Apply white glue to all sides to be joined, and place the assembled piece in a clamp to dry (Figs. 77 and 78). When it is dry, the hip block can be rounded off with the knife (Fig. 79). Before the long screw has been driven through the glued parts as added reinforcement, it will be necessary to drill a hole slightly smaller than the diameter of the screw so that the screw will be guided straight through the parts and the wood will not split (Fig. 80).

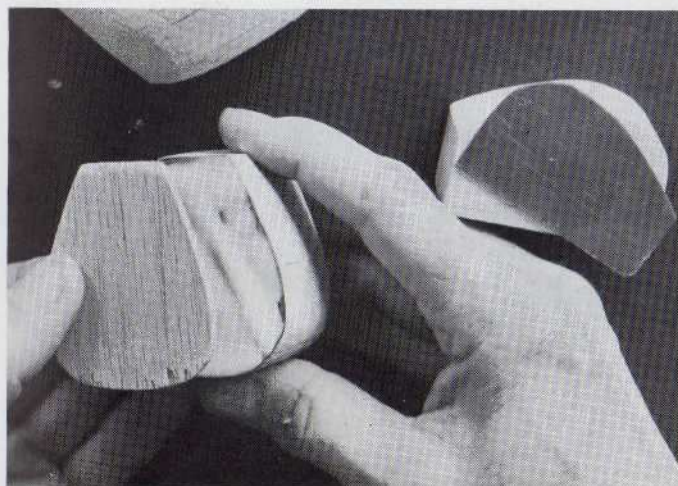
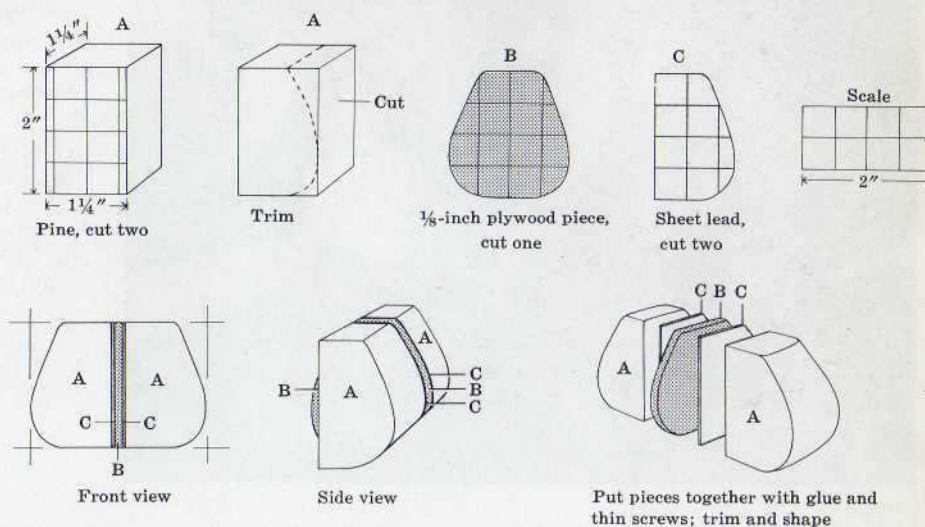


Fig. 77. Glueing together the hip assembly

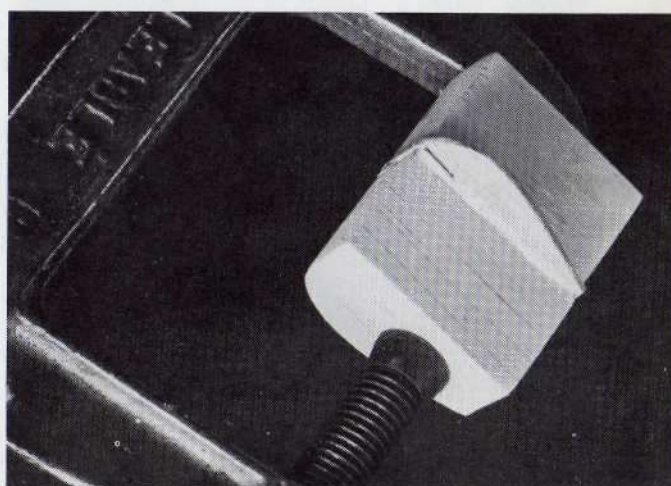


Fig. 78. Placing hip assembly in clamp to dry

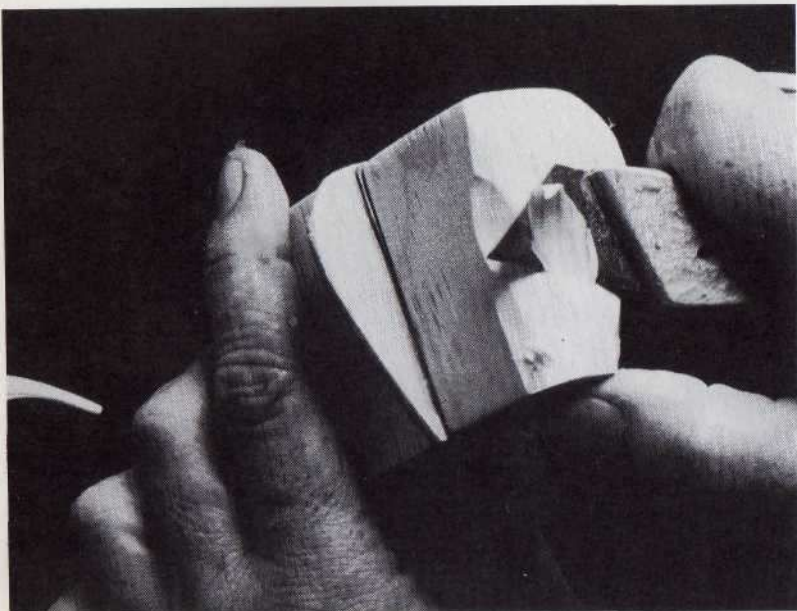
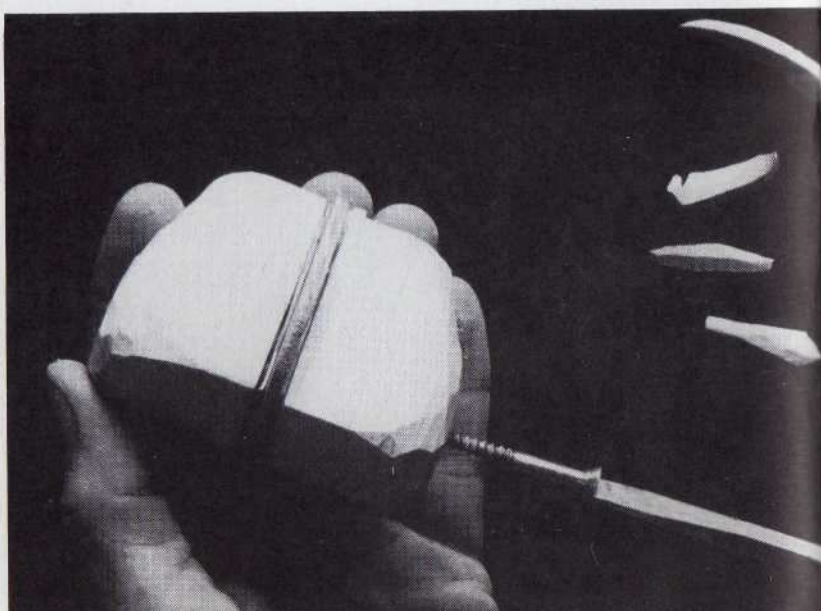


Fig. 79. *Rounding off hip block with knife*

Fig. 80. *Screwing the glued hip block together*





## THE LEGS

Diagram 5 gives instructions for assembling the parts of the legs. Cut out the two pine wood and single plywood parts for the upper and lower legs. Apply white glue to all sides to be joined, and place the assembled leg parts in clamps to dry (Fig. 81). When the leg parts have been put together and it is time to join the upper parts to the lower, it will probably be necessary to sand the joints, both tongue and groove, so that the fit will be loose enough for a free-swinging knee action (Figs. 82 and 83). All the parts of a marionette must be loose so that the action is never constricted. After a hole has been drilled through the tongue and groove sections of the upper and lower legs for the wire which connects them to pass through, a nail can be temporarily inserted (as in the illustrations) to test the action before the wire is run through. As with the arm, the wire is bent into notches cut at either side of the holes, and the notches are filled in with plastic wood. The edges of the legs can be trimmed and whittled with the knife to the shape desired (Fig. 84). If a fuller calf is wanted, fill out the leg with plastic wood; let it dry, and sand it smooth (Fig. 85).

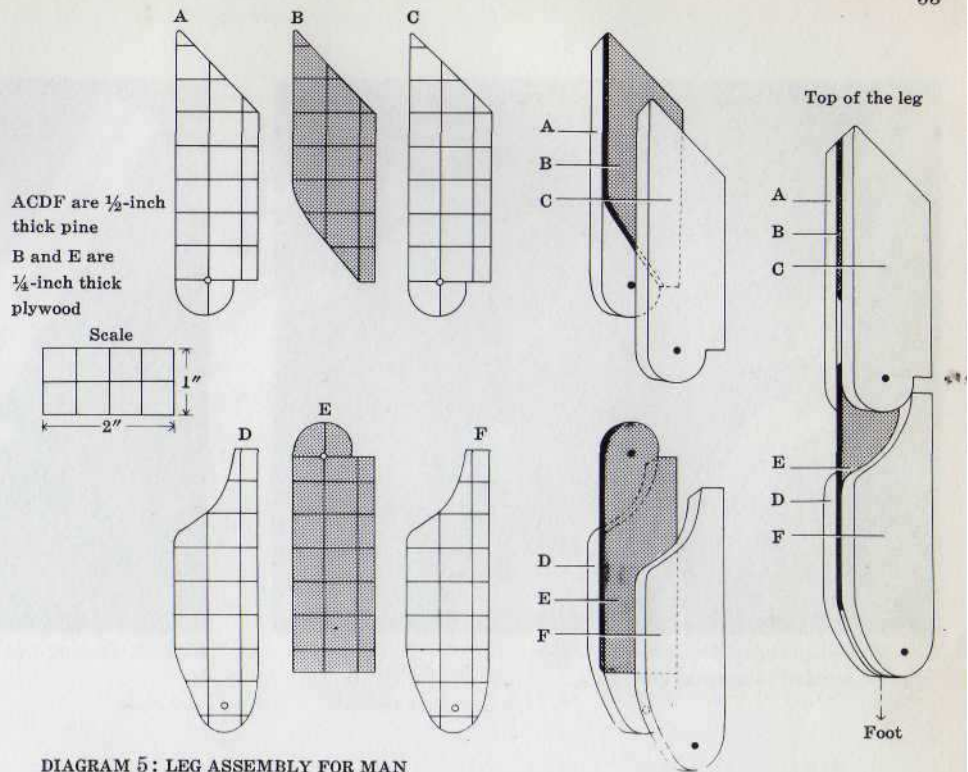
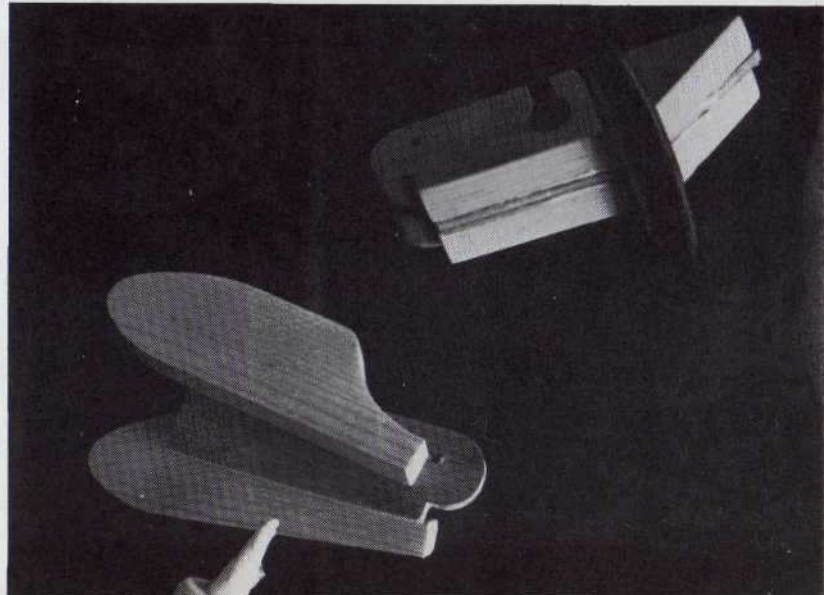


Fig. 81. Upper leg assembly drying in clamp while lower leg is being glued together



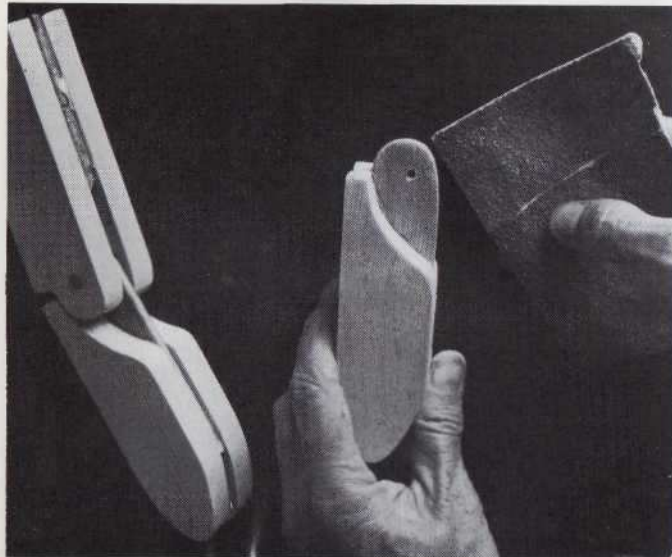


Fig. 82. Both tongue and groove joints must be sanded to assure loose fit

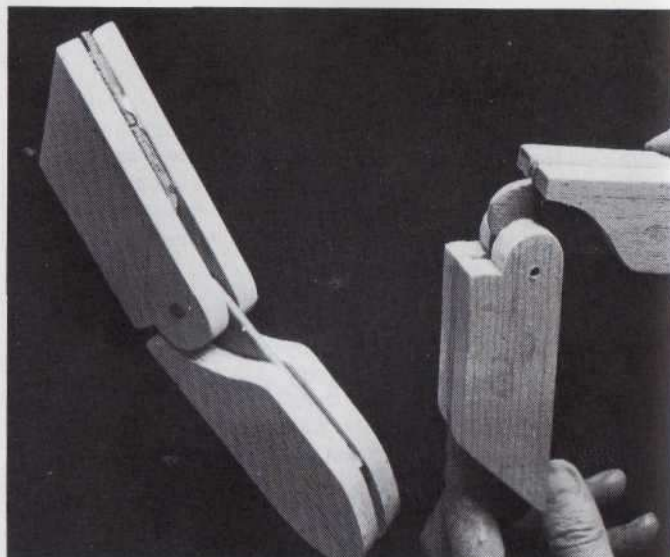


Fig. 83. Testing the fit of the leg joints

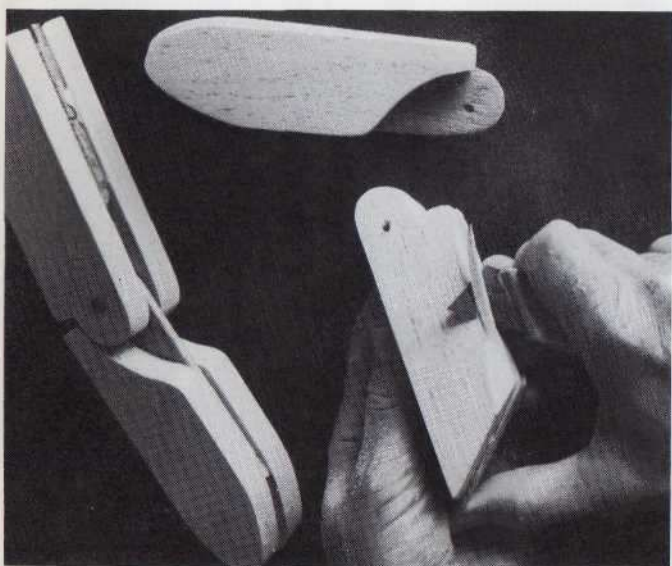


Fig. 84. Trimming the leg joints to desired shape

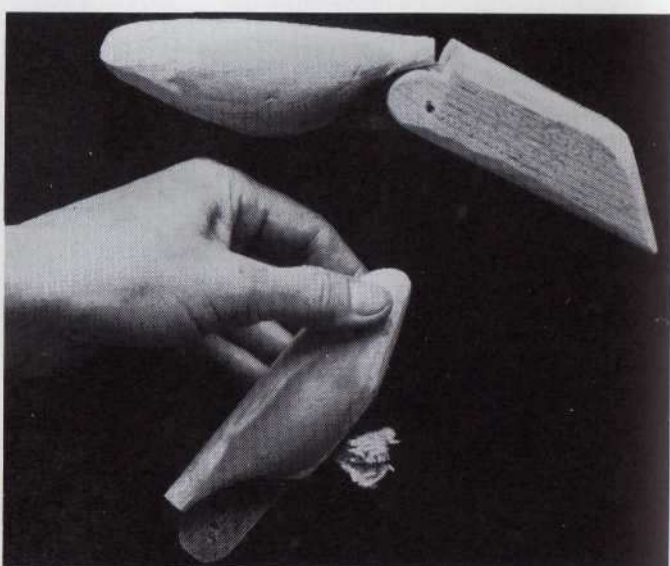


Fig. 85. Adding plastic wood to fill out the calf



# HANDS AND FEET

Follow the instructions in Diagram 6 for cutting out the hands and feet. Sheet lead for the hands and feet and hips comes in several thicknesses and is generally sold by the pound. One-eighth inch thick is a little hard to handle; one-sixteenth inch thick is just about right but is not always available. Sheet lead is soft and can be cut with ordinary scissors. Trace the pattern for the hands onto the sheet lead and cut them out (Fig. 86). If the sheet lead is heavier than one-sixteenth of an inch thick, it may be strong enough to carry the weight of the hand at the wrist, in which case a tab may be left at the wrist when the hand is cut out, into which a hole can be punched. In most cases, however, it is safer to use wire for the hand to hang by (Fig. 87). Holding the hand by the tab or by the wire loop, gradually cover the sheet lead with plastic wood (Fig. 88). The plastic wood holds the wire loop in place while it fleshes out the hand. This process takes quite a while because it is necessary to let the plastic wood dry between applications. Then smooth and fill in the uneven parts with more plastic wood; and after it has dried, sand again. Depending on how smooth and fine a hand is required, the filling and sanding operation may be repeated a number of times. If wire is used to attach the hand, cut off the lead tab (Figs. 89 and 90).

The feet are made by the same method as the hands. Again, the tabs shown in the photographs may or may not be used to hang the feet by, depending on the strength and thickness of the sheet lead (Figs. 91-93). It will be noticed that the man's feet hang by a single wire that fits into a slot in the ankle (Fig. 94), while the woman's feet hang by both tabs, reinforced by wire, which fit around the tapered ankle (Figs. 100-104, pp. 64-66). Either method is acceptable.

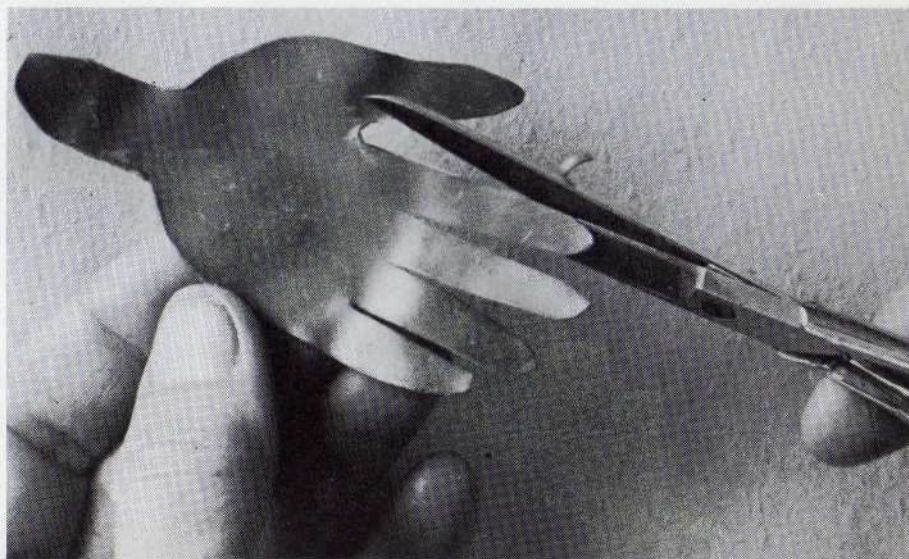
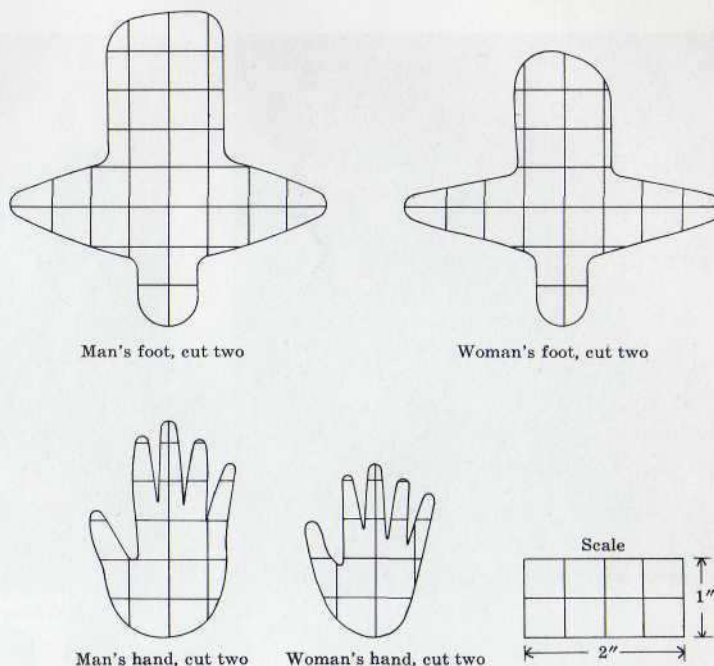


Fig. 86. Cutting the hands from sheet lead



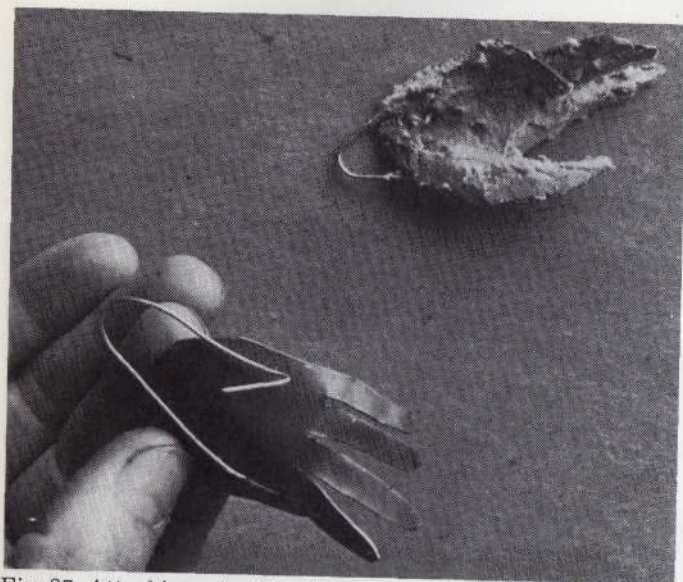


Fig. 87. Attaching wire joint to hand

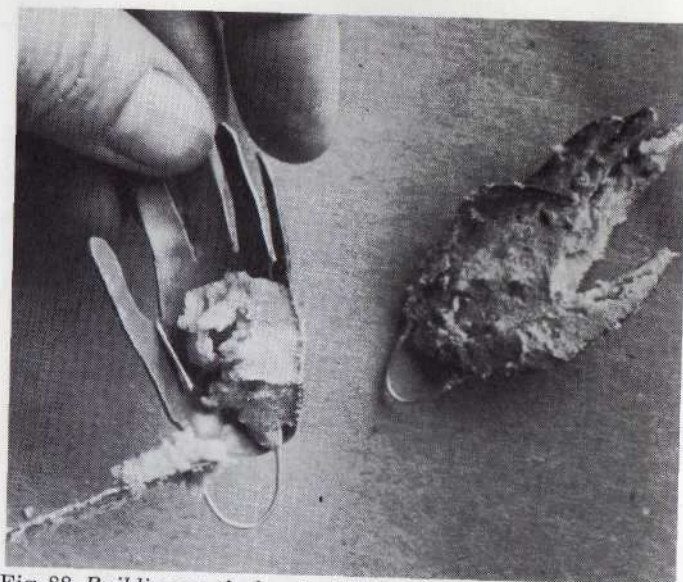


Fig. 88. Building up the hand with plastic wood

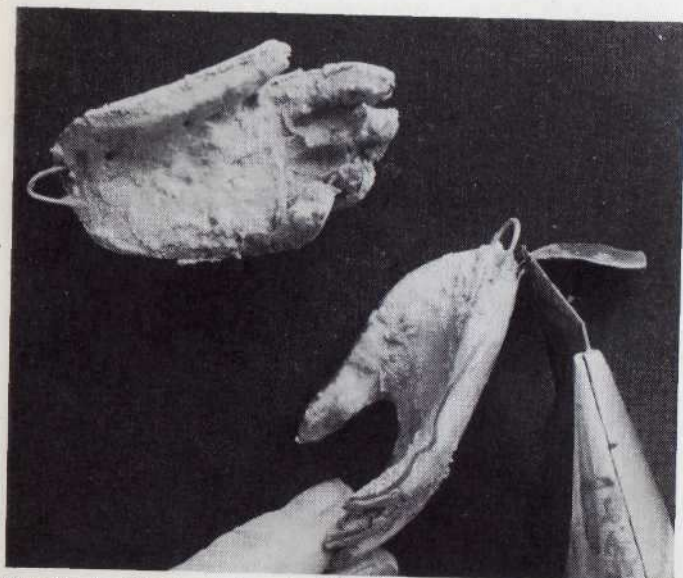


Fig. 89. Lead tab may be cut off if wire is to act as the joint

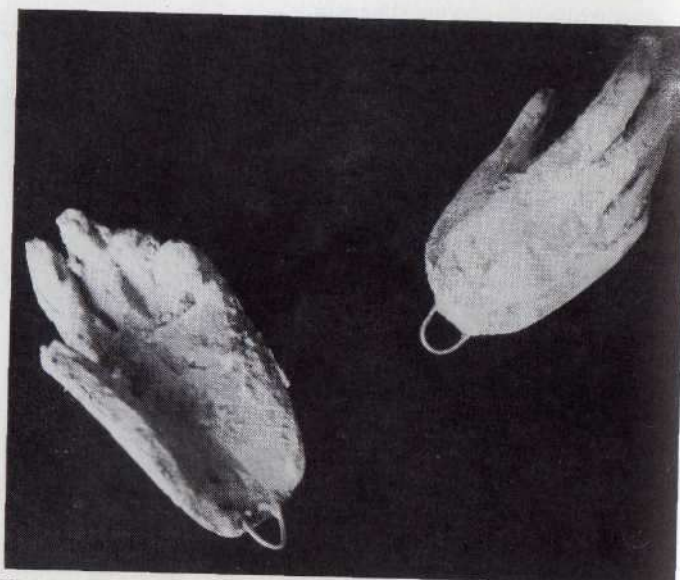
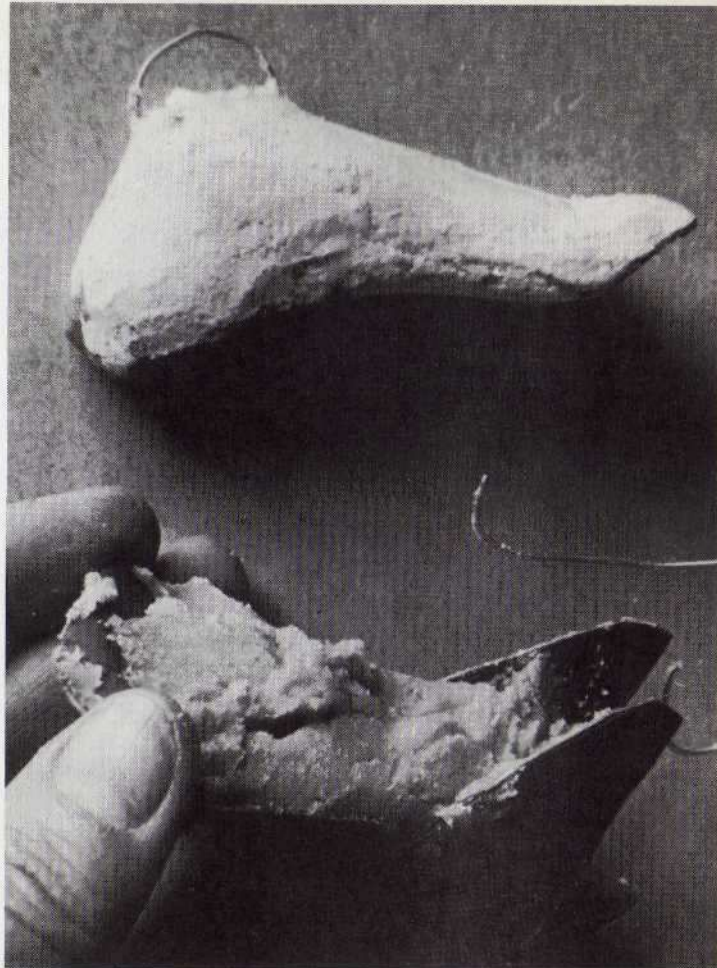


Fig. 90. Finished hands with wire joints





*Fig. 91. Sheet lead foot pattern and finished foot with wire joint*



*Fig. 92. Setting wire joint into plastic wood*



*Fig. 93. Woman's foot with metal tabs and wire; man's foot with wire only*

#### JOINING THE PARTS

Now all the parts of the marionette may be joined together. Put closed screw eyes in the top and front of the hips, as indicated in Fig. 94. Force two screw eyes open wide enough to pass through the screw eyes in the front of the hips. Put these into the tops of the legs, and join the legs to the hips by passing the opened screw eyes in the front of the hips. Close with pliers.

Join the head to the torso in the same way (Fig. 95).

Join the hand to the arm by inserting the wire loop of the hand into the slot in the arm. Pass a short length of wire through the holes in the arm and bend back into the little grooves. Fill the grooves with plastic wood for a smooth appearing joint (Fig. 95).

Put two screw eyes in the bottom of the torso and join the torso to the hips by tying them together with a stout shoe lace or cord (Figs. 96 and 97).

If a puppet is to wear a long, full sleeve, it is not necessary to make an upper arm. A cord from the shoulder to the elbow is all that is needed (Diagram 1). Greek costumes are generally sleeveless, so it was decided to give Persephone and her mother, Demeter, attractive and complete arms (Diagram 7; Figs. 100-102), which are identical to the arm assembly for a man (Diagram 3, p. 47), only smaller.

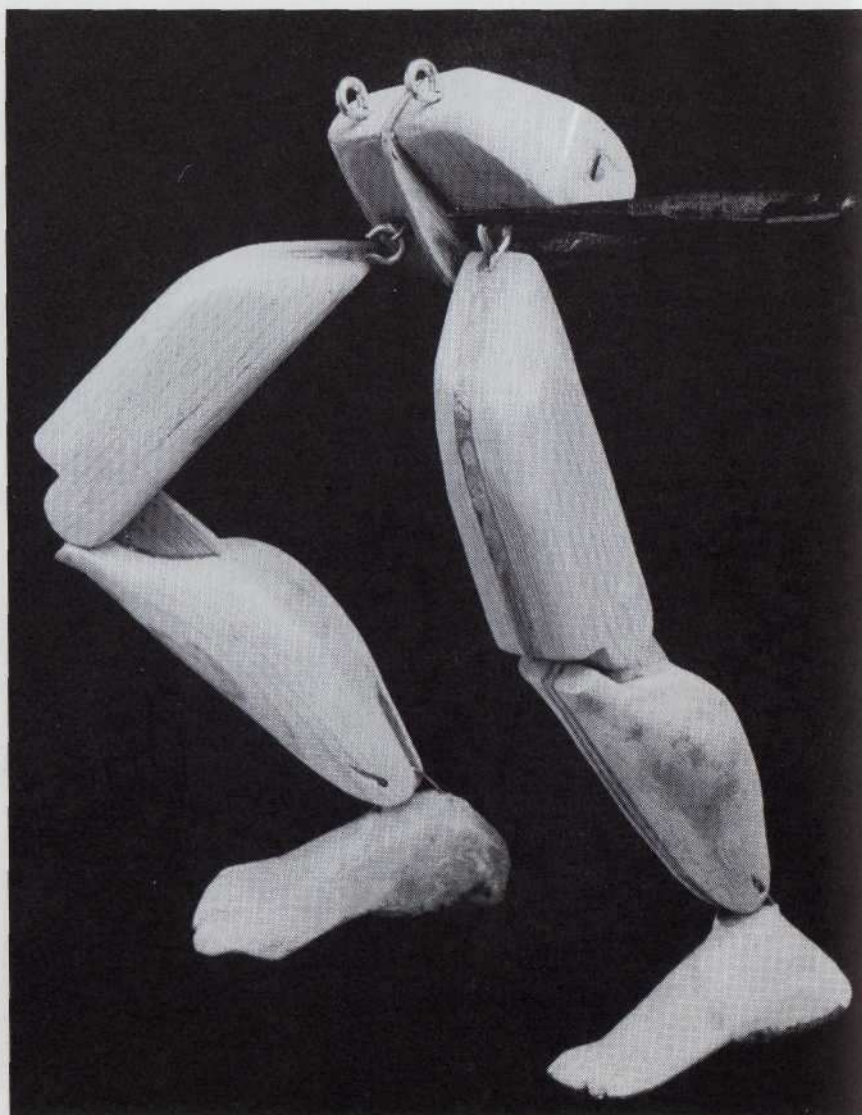


Fig. 94. Attaching legs to hip block with screw eyes



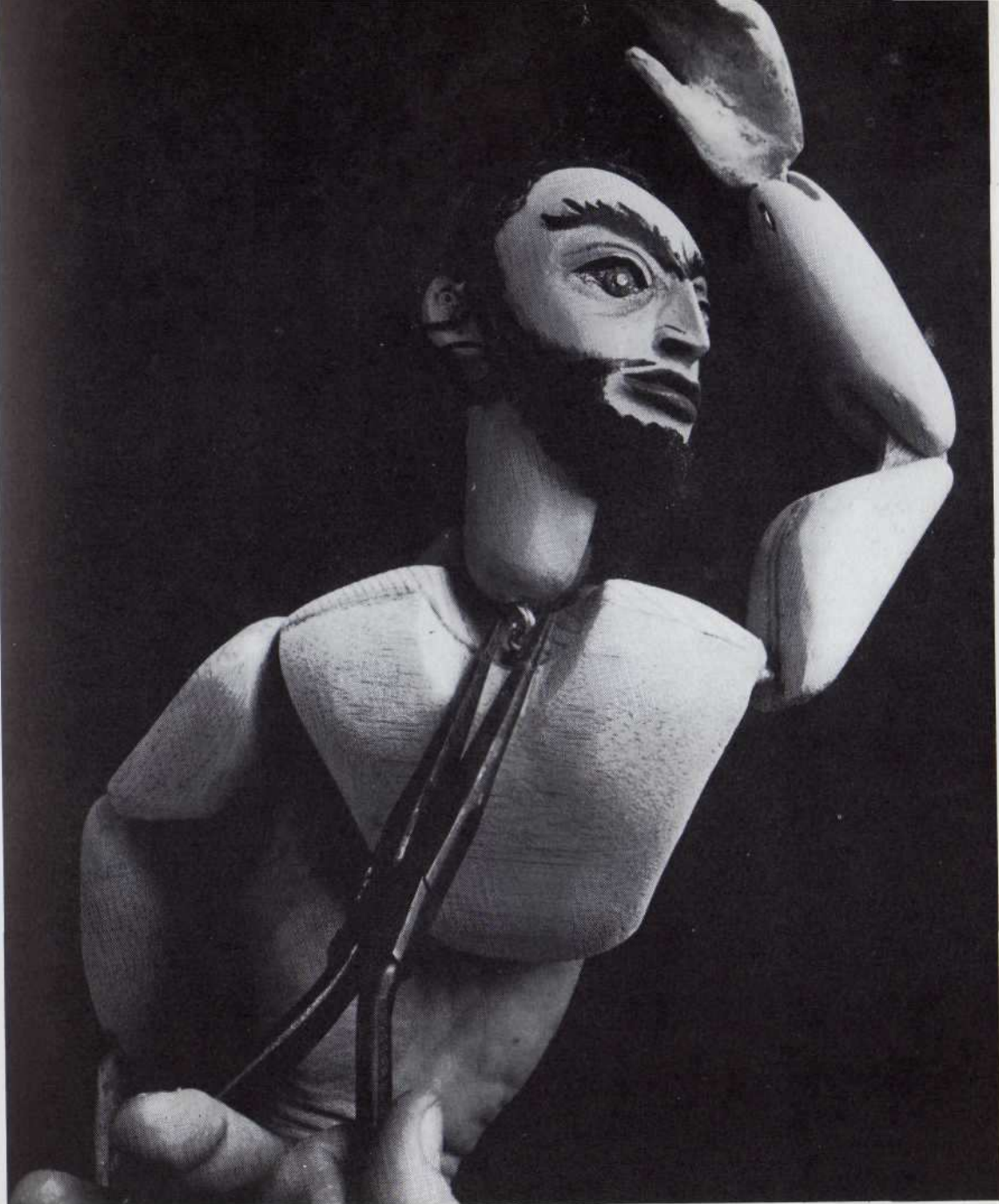


Fig. 95. *Joining head to torso with screw eye*

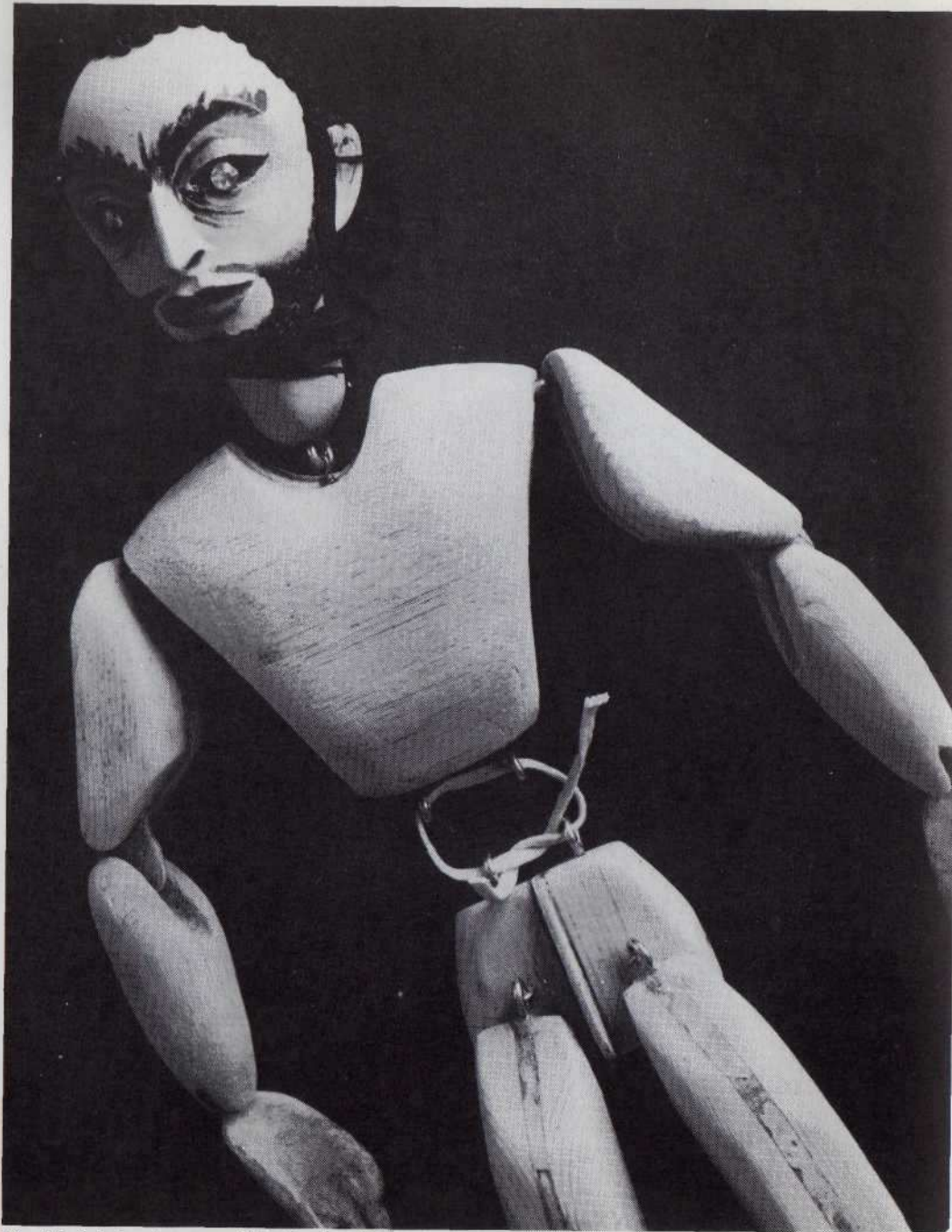


Fig. 96. *Joining torso and hip block with screw eyes and shoe lace*



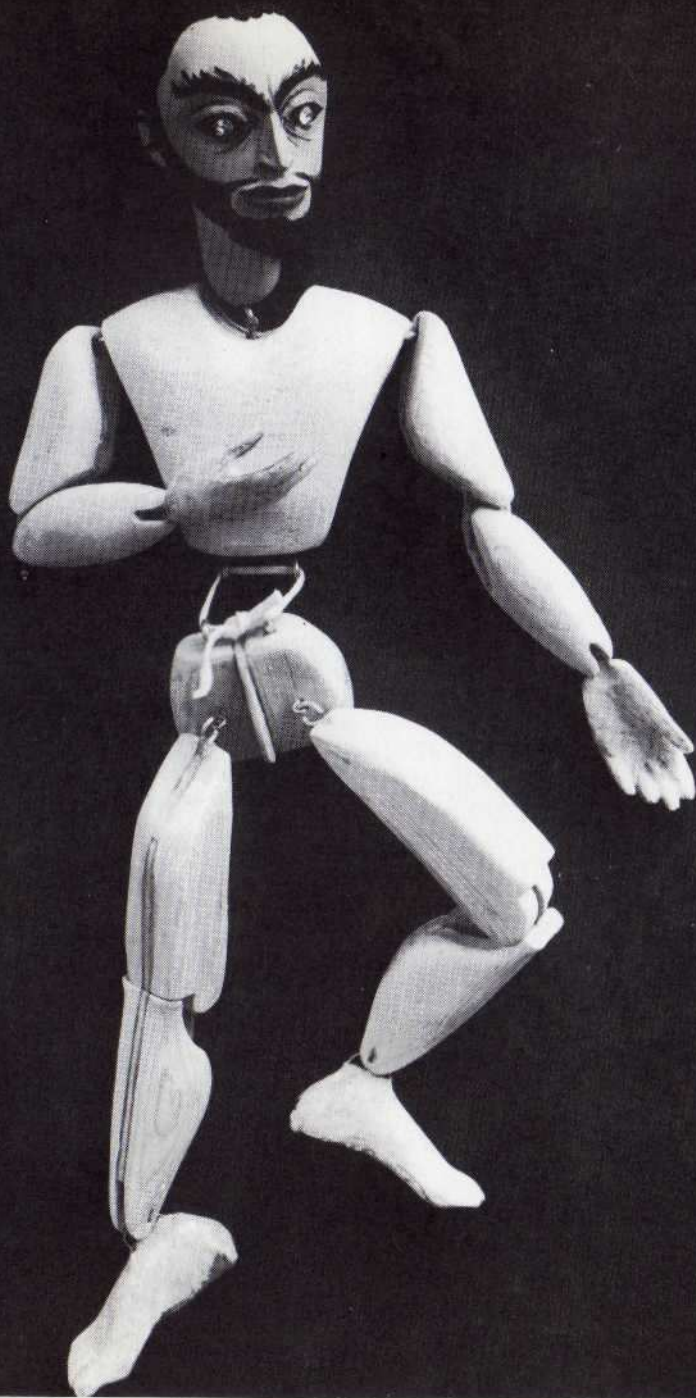
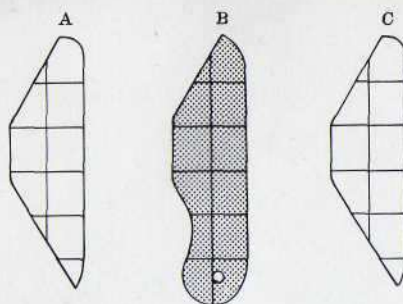


Fig. 97. Completed male figure (*Hades*)

DIAGRAM 7: ARM ASSEMBLY FOR WOMAN



## VARIATIONS FOR FEMALE FIGURES

Female torsos may be made in a number of different ways, including the method already discussed for the male puppet (Diagram 2, p.44). Here again a good deal depends on how they are to be costumed. Persephone's torso is made according to Diagram 8 and is shown in Figs. 98, 100-102. Another way of making female torsos is suggested in Fig. 99. Instead of a balsa wood block, an ordinary cellulose kitchen sponge is used for the front; trimmed with scissors to the desired shape, it is glued to the pine wood back. These methods are fine if the figure is to be dressed in an opaque fabric. Screw eyes and cord or a shoe lace can be used to connect the torso to the hip block, and, as illustrated, the hip block to the legs.

Although the hip block for the female figure can be made with the method already described in Diagram 4, a somewhat simpler approach is possible, which can be used for both male and female puppets. Persephone's hips are made from a *single* block of wood used diagonally (Diagram 9). The hips are weighted by a piece of sheet lead cut to fit over the lower part, glued and screwed in place (Figs. 100-102, 104).

Persephone's legs are made of inch-and-a-quarter doweling and are joined at the knees with shoe laces drawn through drilled holes. Small strips of fairly strong fabric are glued at the back of the knees to act as hinges. The lower legs are tapered to the ankles, which fit between the tabs on the feet. Small holes are drilled through the ankles and the feet are joined to them by wire (Figs. 100-104).

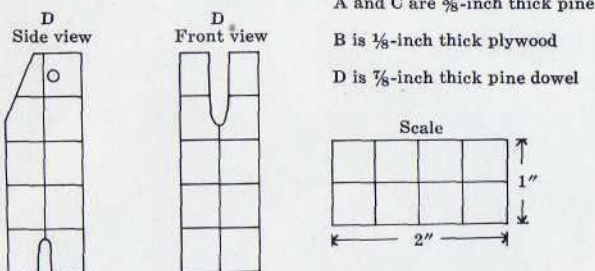
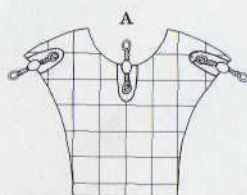
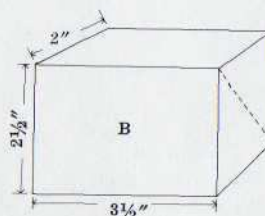


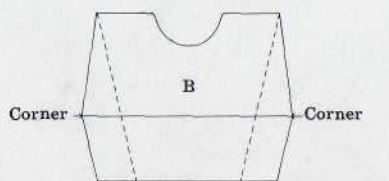
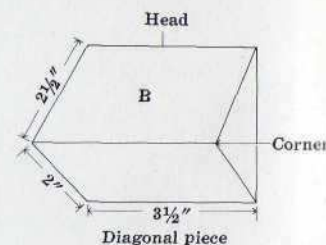
DIAGRAM 8: WOMAN'S TORSO ASSEMBLY

 $\frac{3}{4}$ -inch pine, cut one

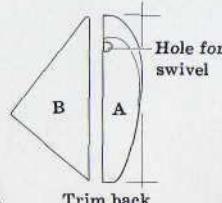
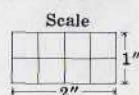
Chisel out and tack size 5 fishing swivels in place



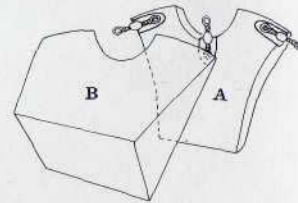
Cut balsa block diagonally



Cut diagonally (broken line) to shape waist



Trim back



Put pieces together and shape



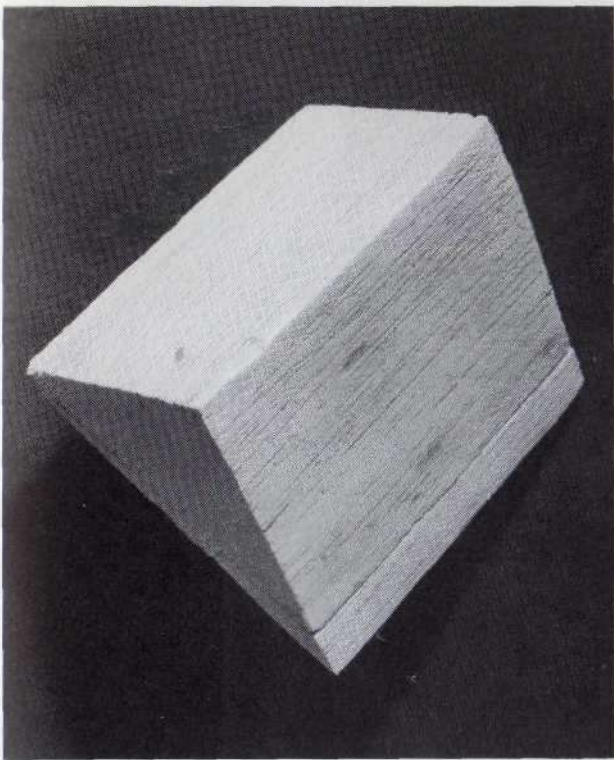
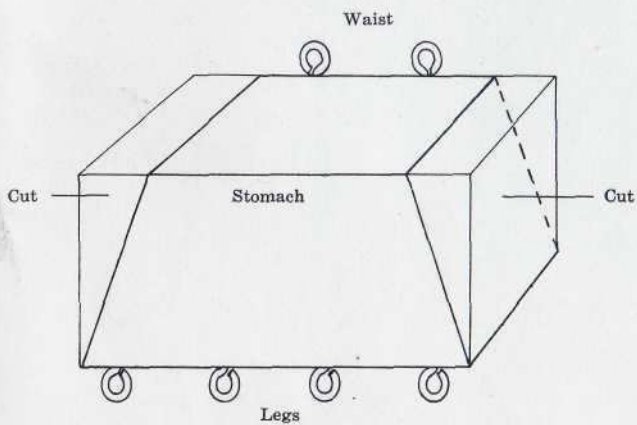


Fig. 98. Balsa wood block for front of female torso

DIAGRAM 9: WOMAN'S HIPS

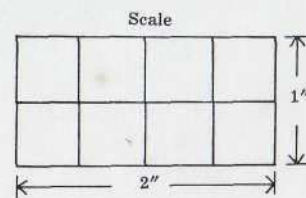


3 x 1½ x 1½-inch pine block

Cut diagonally and shape; insert screw eye



Fig. 99. Cellulose sponge can replace balsa wood as front block





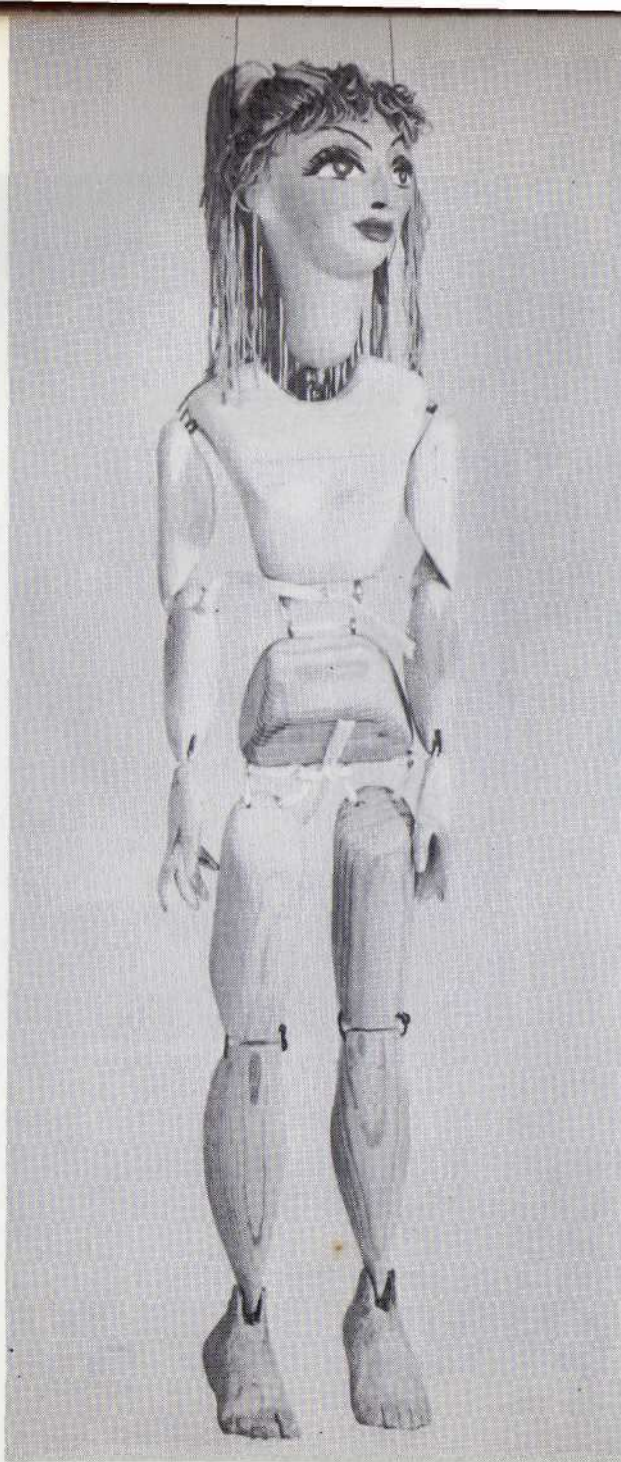


Fig. 100. Torso block assembled following Diagram 8

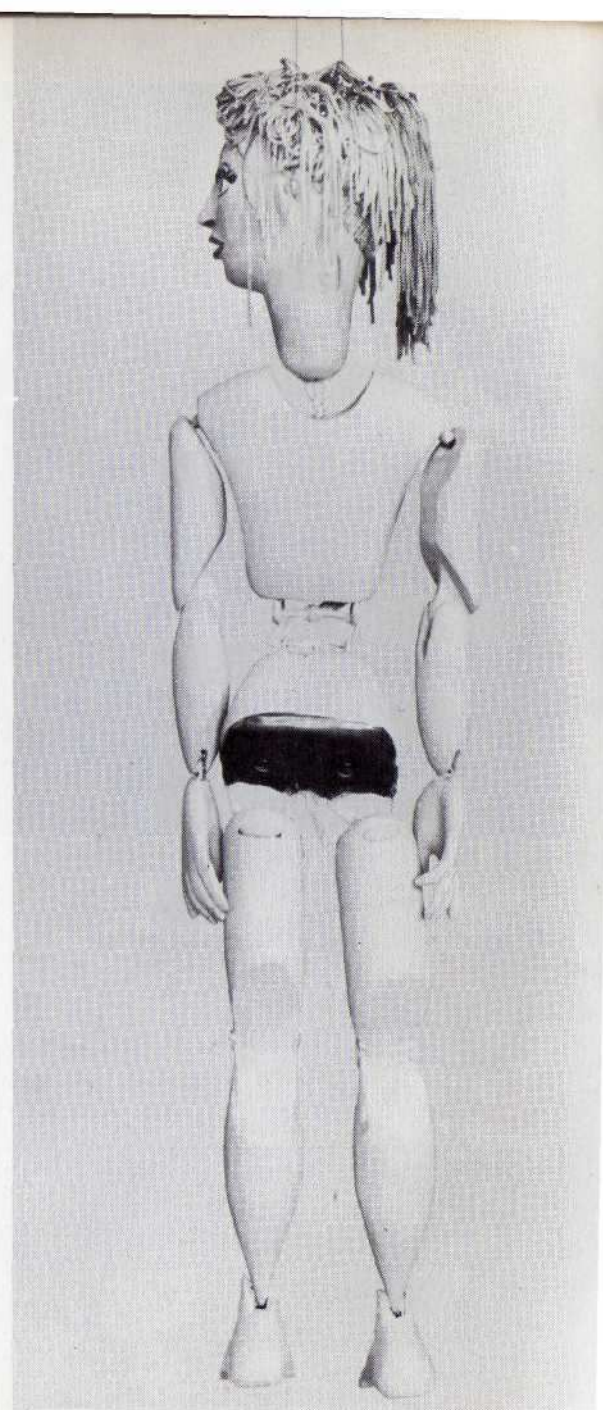


Fig. 101. Back side of torso block. Note sheet lead weight strip attached to lower part of hip block



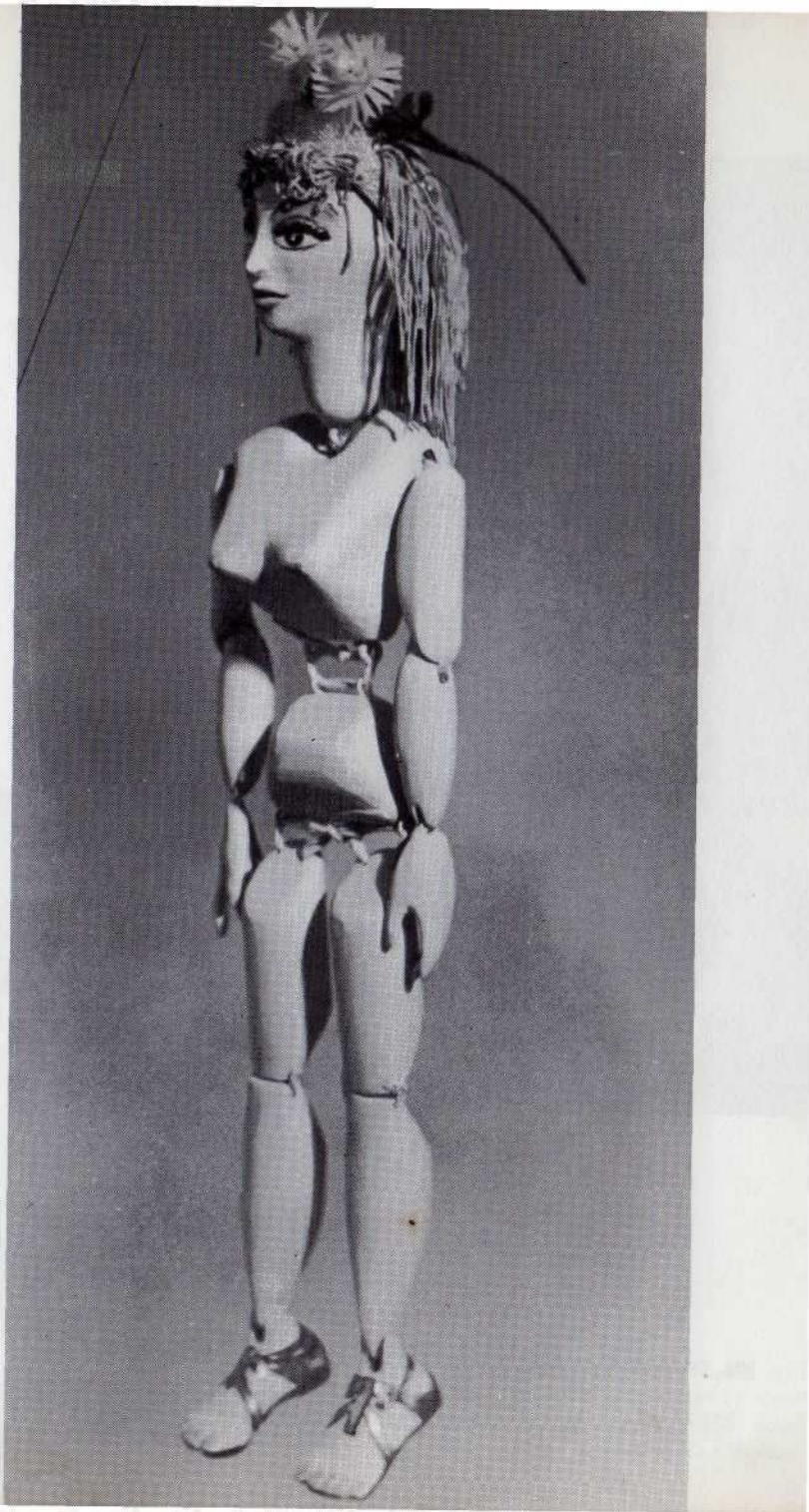


Fig. 102. *Female torso and hip block.*  
*Note legs attached to hip block by screw*  
*eyes and shoe laces*





Fig. 103. Dowel legs joined at knees by cords and cloth strip

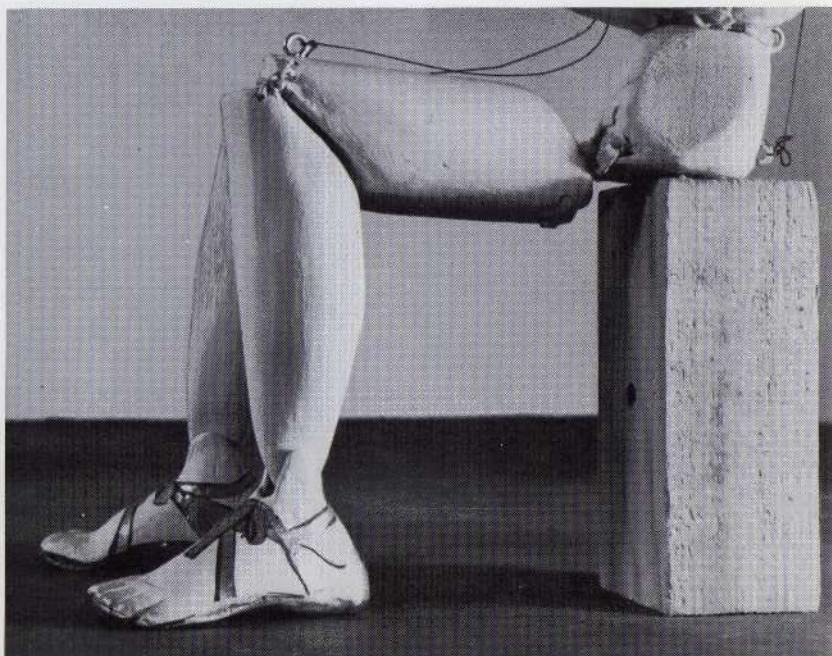


Fig. 104. Weighted hip block permits puppet to sit easily. Note legs joined to ankle tabs by wires bent into grooves and covered with plastic wood



## 4

## Animals and Other Special Forms

As with the human puppets discussed in Chapters 2 and 3, the instructions for making animals and other special forms described here serve, with the necessary variations, for such puppets for almost any play. The basic articulation of the separate parts that make up the horses for Hades' chariot is alike in nearly all animals. The other creatures that appear in the myth of Persephone are easy to make and control and can be improvised upon to create an endless *dramatis*

*personae* of fantastic, animated types.

Most animal puppets may be made flat with movable heads and legs. It is usually not practical to make them round, as they would take up too much room on the stage. The function of the horses used in Persephone is to gallop on stage, prance and stamp about impatiently, and then dash off. During this time there is a great deal of commotion—thunder and lightning, the screams of Persephone, the neighing of the horses, the sound of their clattering

hooves. If animals are painted well, they will look three-dimensional, and if there is no need to have them face the audience, it would be a waste of time to make them more realistic.

Following instructions in Diagram 10, cut the parts out from  $\frac{1}{4}$ -inch plywood with a coping saw or a jigsaw. Put them together with rivets or nuts and bolts; be sure to put washers between the parts so that there will be freedom of movement (Fig. 105). Manes can be made of wool

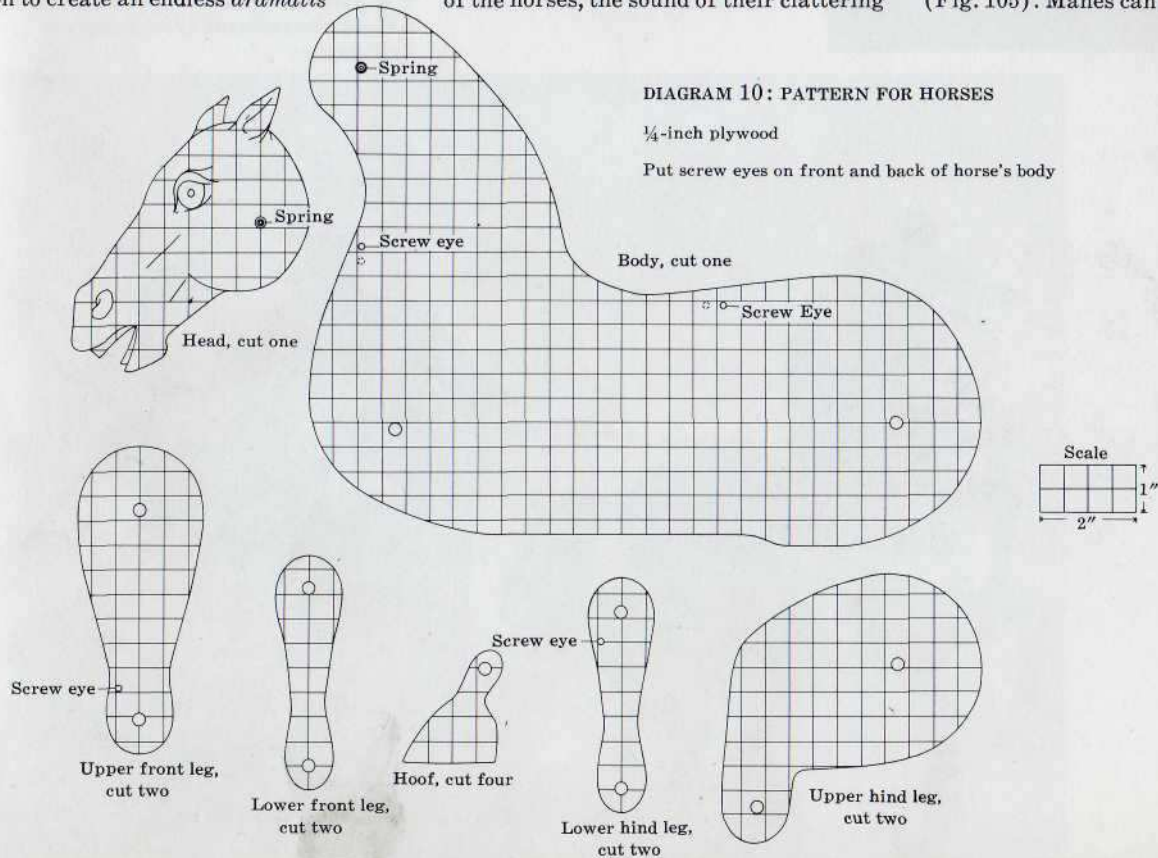


Fig. 105. *Assembled horses*



fringe and tails of knitting worsted. The harness is painted on, except for the reins, which are thin strips of leather (Fig. 106). Any kind of four legged animal can be made this way and may, of course, be fleshed out with plastic wood or padded with cotton batting and covered with real or imitation fur.

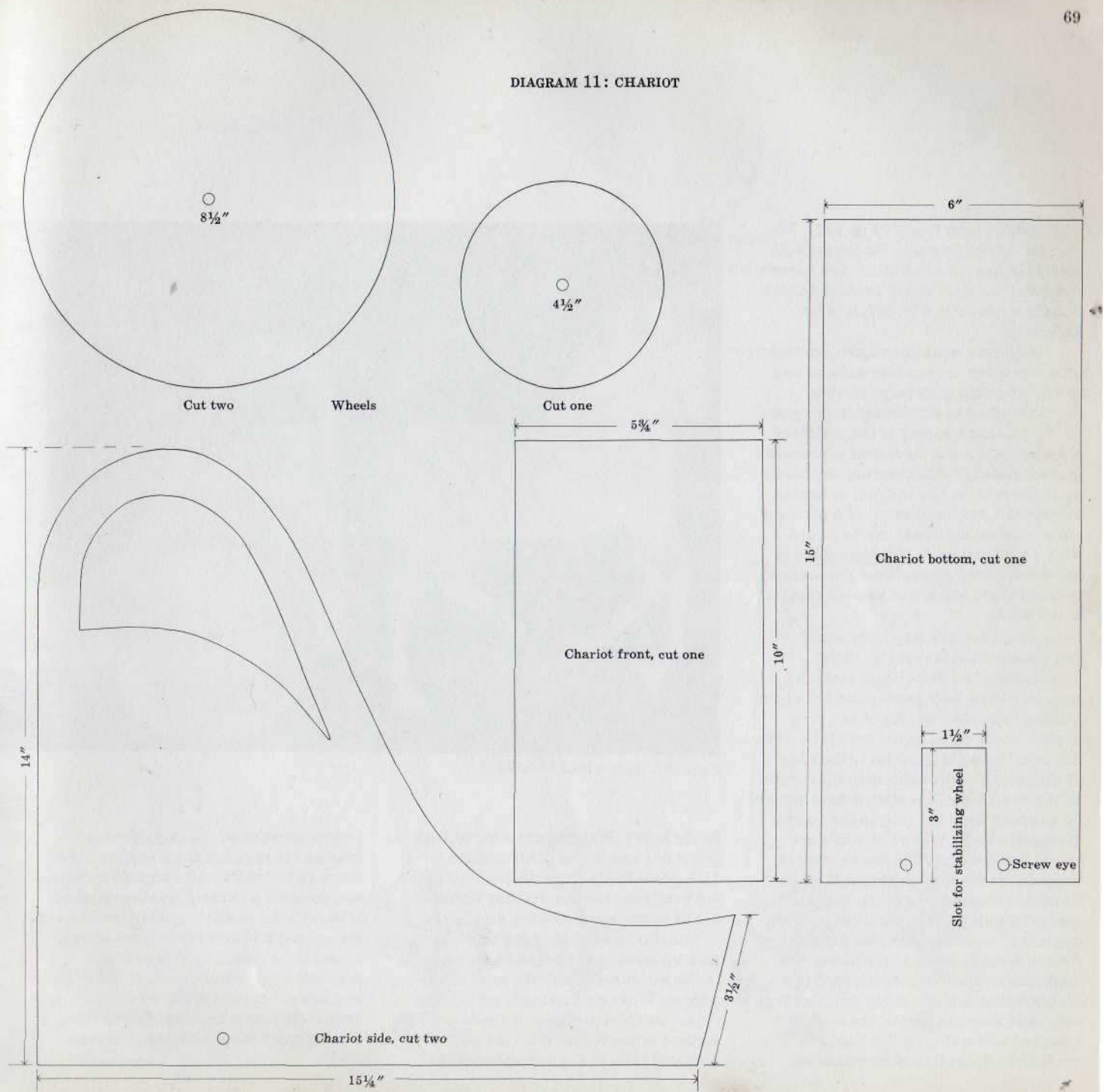
The chariot is cut out the same way as the horses (Diagram 11) and put together with glue and small nails. The wheels are attached with nuts and bolts. Lock washers are used so that the wheels do not become loose and fall off. The chariot is pulled by the horses, so the

Fig. 106. *Added details and painting give a three-dimensional effect to horses and chariot*





DIAGRAM 11: CHARIOT



wheels must turn freely (Fig. 107). The chariot may be joined to the horses with black fish line; one line from each horse's rump to the side of the chariot. Although a shaft is shown in Fig. 106, it is not necessary.

Caterpillars, snakes, dragons, and many other creeping or crawling animals can be made by stringing large wooden beads together as illustrated in Diagram 12. By placing a spring in the middle of the control, a great variety of movements is made possible. The creature can hump up in the middle, rise in front or behind, bite his tail, turn and twist. If a spring is not available, the pieces can be joined with a cord and much the same effect is achieved. Fuzzy caterpillars are made by sticking short lengths of yarn or feathers to the beads.

Artificial flowers may be taken apart and reassembled to make working marionettes. If a flower is to open and close its petals, each petal must be cut out and then attached by thread to a ring or wire loop located at the top of the stem. Another thread is fastened to the edge of the petal and brought up to the control (Diagram 13-A). The stem is held upright by a thread from the ring to the control (Diagram 13-B) while the petals are raised and lowered. The flower must be weighted at the bottom so that it will not be lifted from the floor when the petal control is pulled up. Weights of varying degrees of heaviness are obtainable at fishing supply stores. If the flower is to walk, the stem is cut and attached to a ring by stout fish line or thread. Two legs are made from the rest of the stalk and attached to the ring by fish line. Feet are made to look like leaves, but must be

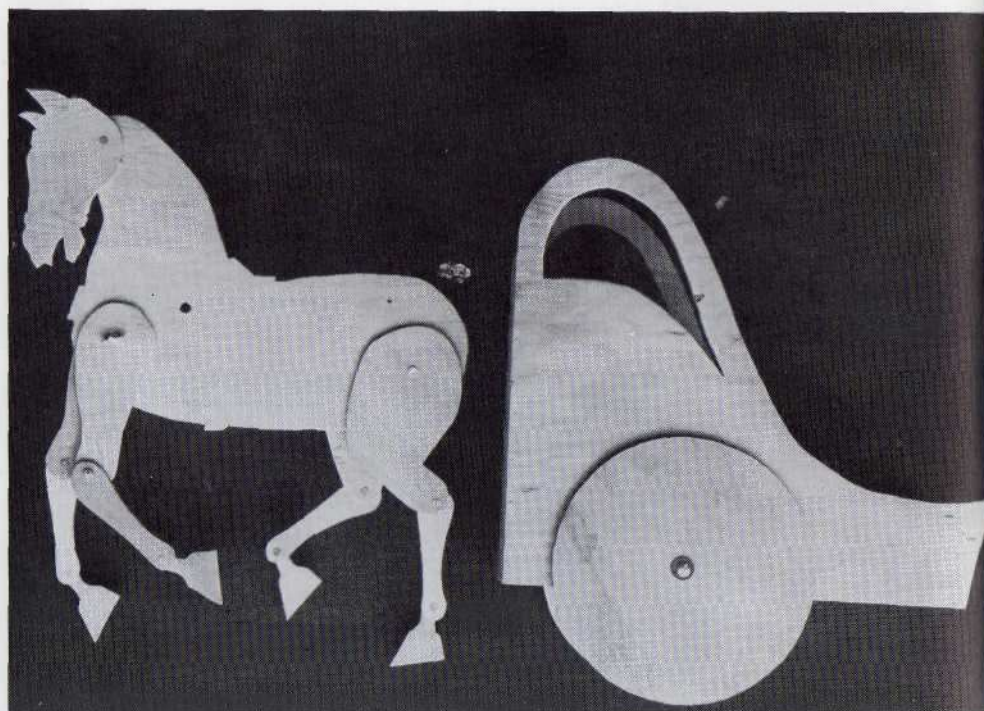


Fig. 107. Assembled chariot

fairly heavy. Weights are covered with green felt and leaves sewn on them (Diagram 13-C). If artificial flowers are not available, the flowers may be made out of paper, covered wire, and felt.

The classic method of making a puppet pick up an object is to have a string from the object run through the hand of the puppet. When this string is pulled, the object becomes attached to the hand. This method is fine if that is all the puppet is required to do in the scene; but if the

puppet must be on the stage for some time and is required to move about, the extra string can become a great nuisance and possibly a hazard. Another method is to embed a small magnet in the hand of the puppet and another magnet in the object to be picked up. These small magnets may be purchased at hobby shops and are not expensive. They will pick up even if they have been painted so that they are virtually invisible (Diagram 13-D).



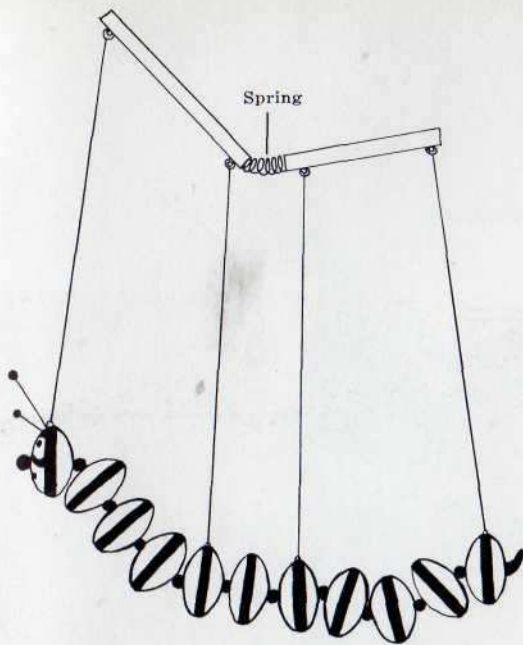


DIAGRAM 12: CATERPILLAR OF WOODEN BEADS

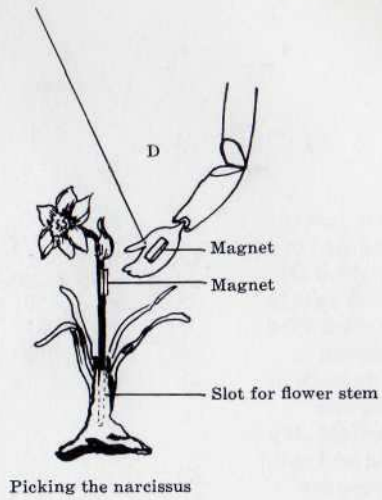
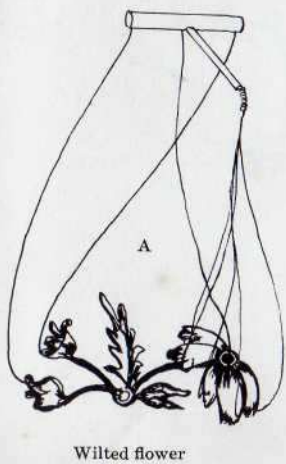
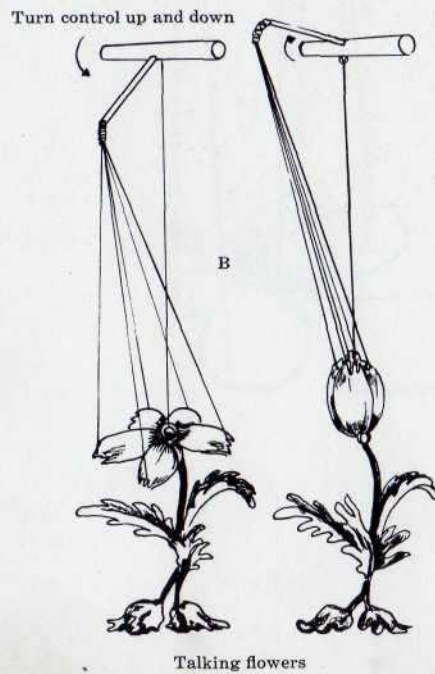


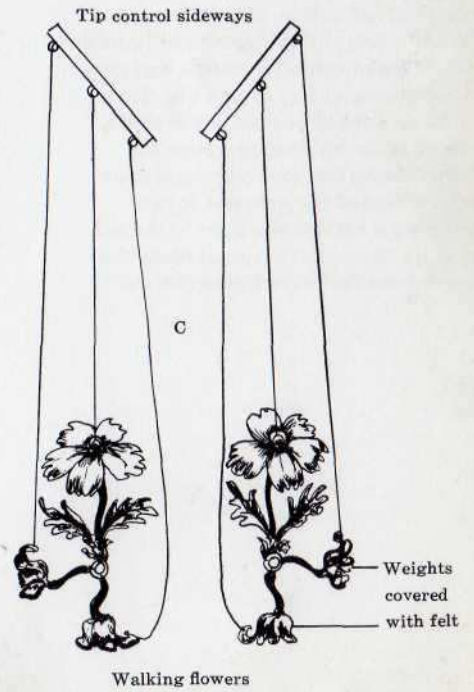
DIAGRAM 13: FLOWER MARIONETTE



Wilted flower



Talking flowers



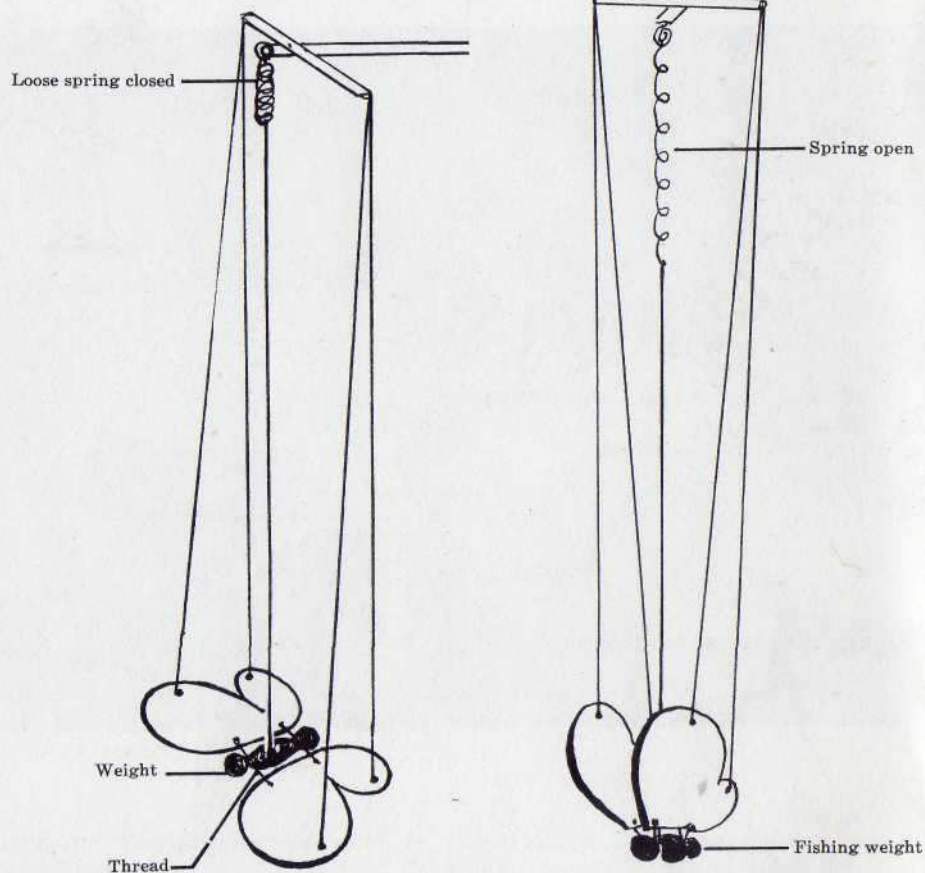
Walking flowers

DIAGRAM 14: BUTTERFLY

Butterflies are very effective just cut out of paper, painted, and attached to one string and floated gracefully about the stage. If the butterfly has a real part in the play and must have more controlled movements, then make it as shown in Diagram 14. The wings may be made of buckram or heavy paper. They are attached by thread to a fish weight; try to find a long oval shaped weight and paint it to match the butterfly. Be sure the little spring has a very loose action so that as the control is moved up and down the wings of the butterfly will automatically open and close, even if the butterfly is resting on a flower.

A ghost may be made of any soft transparent fabric, but chiffon is best. Ready-made chiffon scarves or handkerchiefs make splendid ghosts, and they come in almost any color (Fig. 108).

As strange creatures are created, others come to mind, and soon the imagination becomes more and more active. One of the greatest joys in building a marionette show is the surprising number of original ideas that develop as the project progresses.





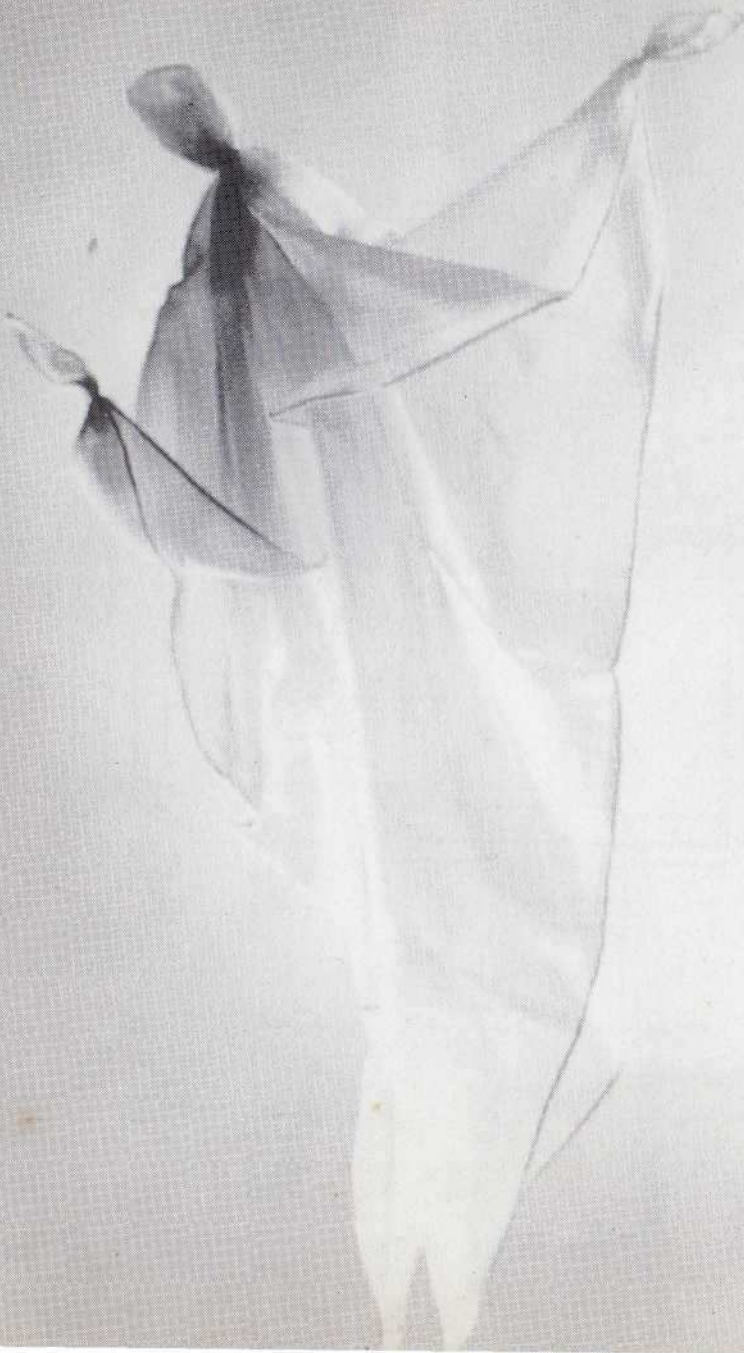


Fig. 108. *Ghost made of chiffon*

## 5 Costumes

After the puppets are assembled, but before they are strung, is the best time to design and make the costumes. Attach threads to the ears or to the wire loops in the heads and hang the puppets from some sort of rack so that they will be easy to get at from all sides. The costumes for the women should be made of very soft flowing material such as crepe or chiffon. Persephone's costume is made in two parts; she has an undergarment of light orange chiffon (Fig. 109 and Diagram 15), and an overgarment of yellow (Fig. 110 and Diagram 16).

The overgarment is decorated with a typical Greek design, which was painted on the fabric after the piece was hemmed (Diagram 17). Hand hemming is not necessary, but it does hang better than machine stitching, which is inclined to be a little stiff.

Persephone's headdress is made of buckram covered with gold lamé. The lamé is cut a little larger than the pattern (Diagram 18) and is laid over the buckram and glued to it at the back. Small artificial flowers were added to the headdress to give it a spring-like appearance (Fig. 111). Her sandals are painted on her feet (Fig. 112). The silk fringe hair curls easily if it is dampened slightly and wrapped around toothpicks for a moment.

Hades' costume is that of a Greek warrior. The armor is made of buckram covered with silver lamé (Diagram 19). The lamé is glued to the buckram using the same method as for Persephone's headdress. A Greek design is painted on the armor with fabric paint before the front and back pieces are put together. The pleated underskirt, neck and sleeve ruffles are made of blue chiffon. The neck and sleeve ruffles are sewn to the armor

DIAGRAM 15

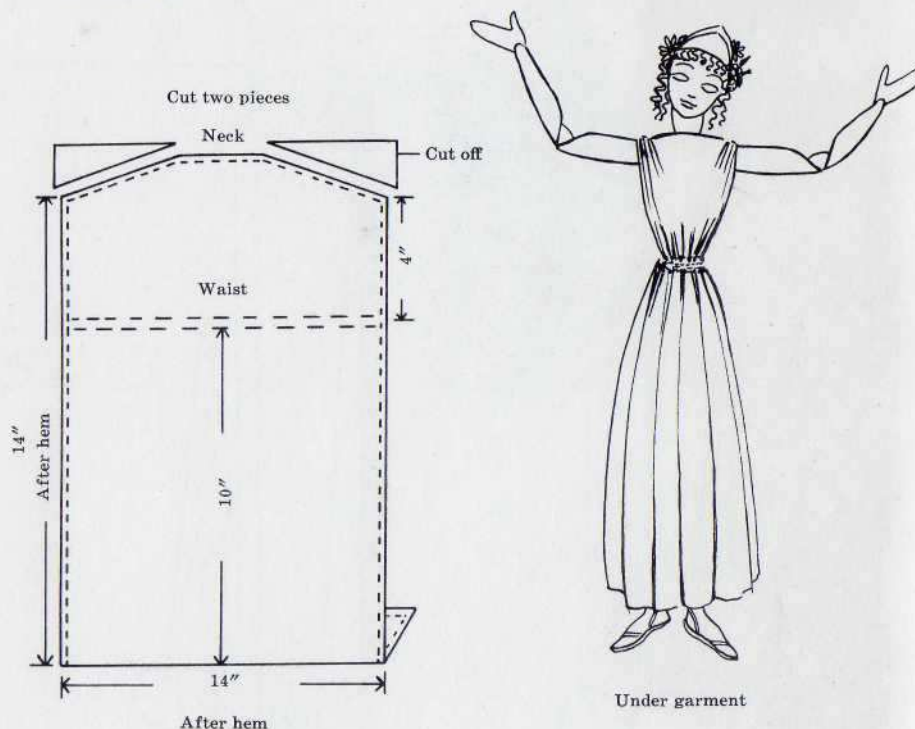






Fig. 109. Undergarment for Persephone;  
finished costume for Hades



Fig. 110. Overgarment for Persephone

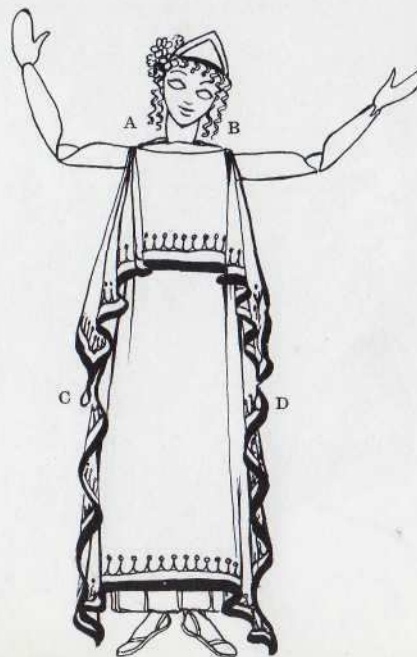
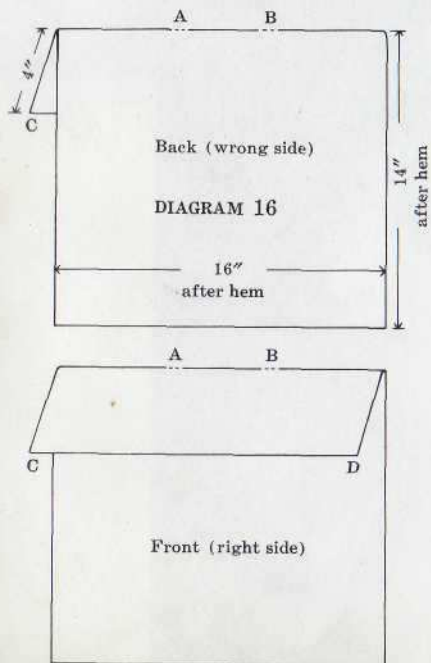
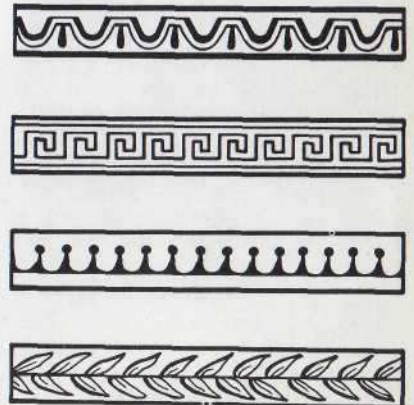


DIAGRAM 17



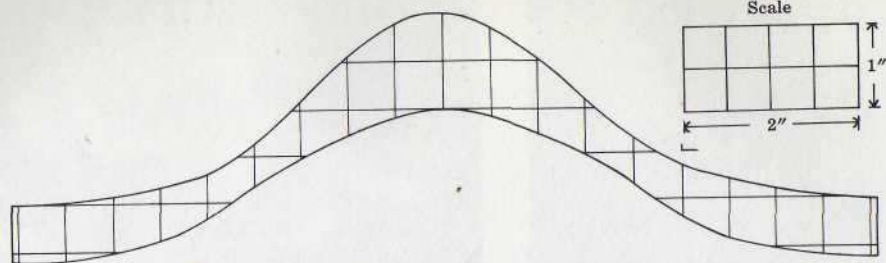


DIAGRAM 18: PERSEPHONE'S HEADDRESS

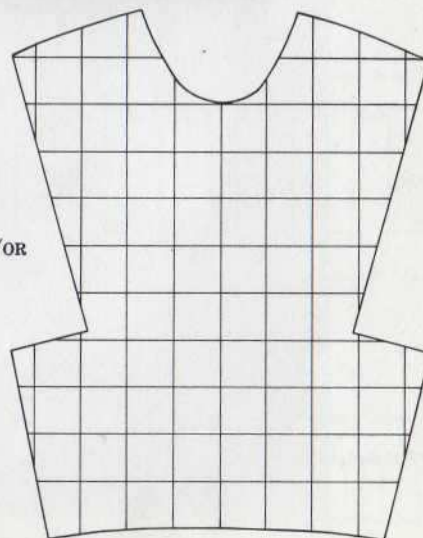
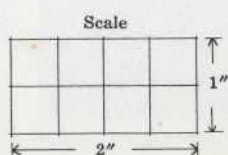
Fig. 111. *Finished helmet and headdress*





Fig. 112. Sandals and leg protectors are painted on

DIAGRAM 19: PATTERN FOR FRONT AND/OR BACK OF HADES' ARMOR



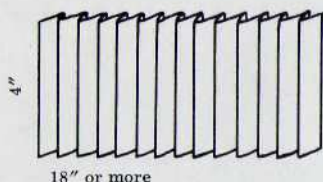
before it is put on the puppet. The over-skirt is made of silver lamé, hemmed and ironed into box pleats (Diagram 20). The underskirt and overskirt are sewn together and then stitched right onto the puppet. The armor is put on last and is sewn together on the puppet. Hades' leg protectors, or greaves, are painted on his legs with silver paint and an edging of

silver braid is glued around them; his sandals are also painted on his feet (Fig. 112). Hades' helmet (Diagram 21) is made of heavy buckram or cardboard and put together with masking tape and staples (Figs. 113-115). The crest is cut from buckram or light-weight cardboard, glued to shape and attached to the helmet (Figs. 116 and 117). The whole helmet is

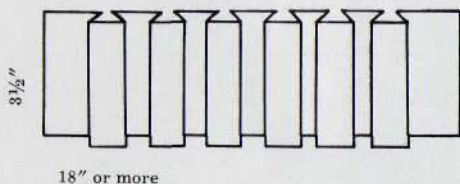
then given several coats of heavy paint or gesso and sanded. It is finally given a coat of silver paint and decorated (Fig. 111).

In designing costumes for puppets the most important thing to remember is to make them so that the puppet has freedom of movement; none of the joints should be restricted and nothing should stick out that might cause the strings to tangle.

Hades' under skirt



Hades' over skirt



Hades' neck and sleeve ruffles

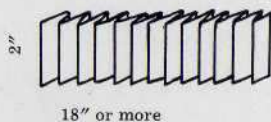
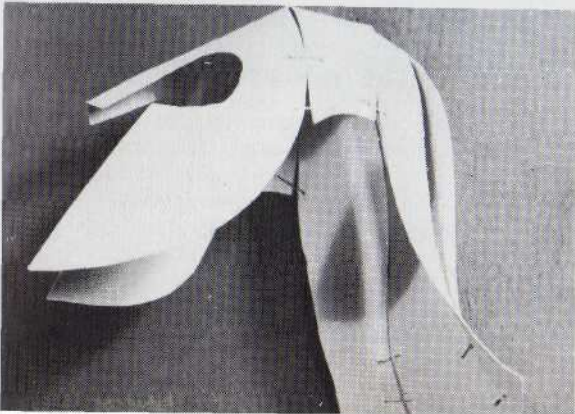
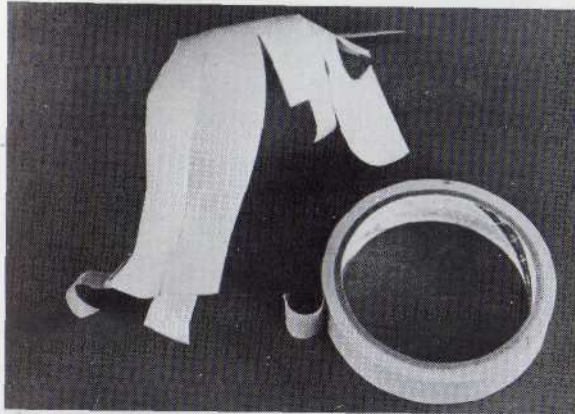
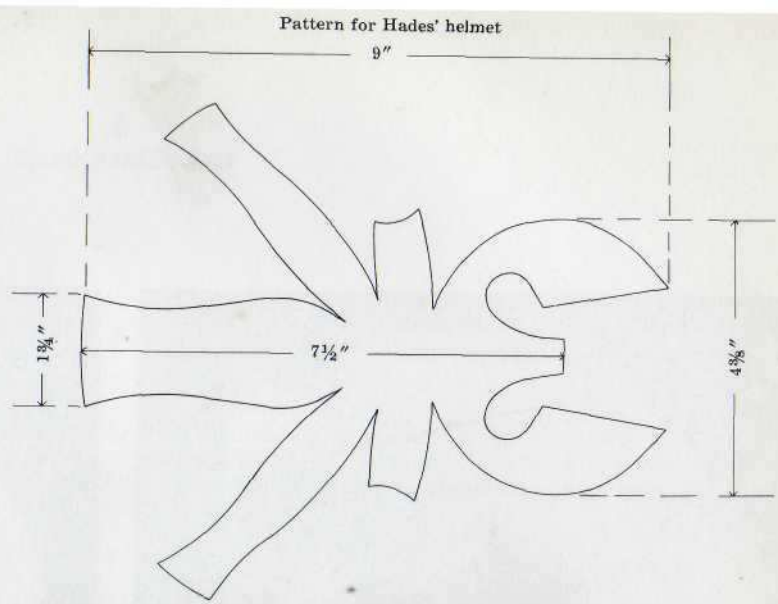
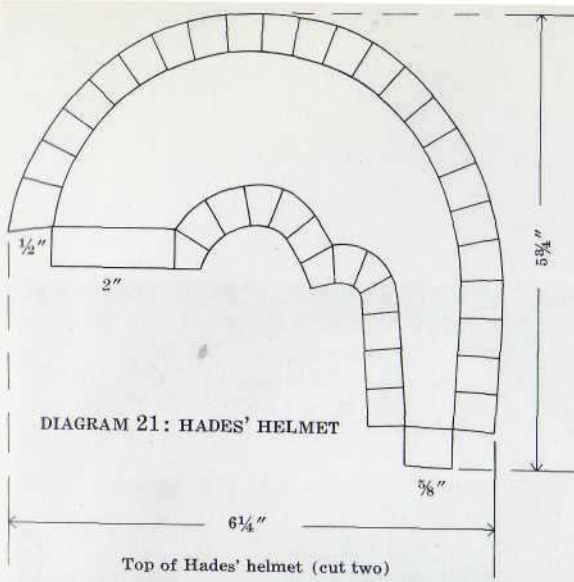


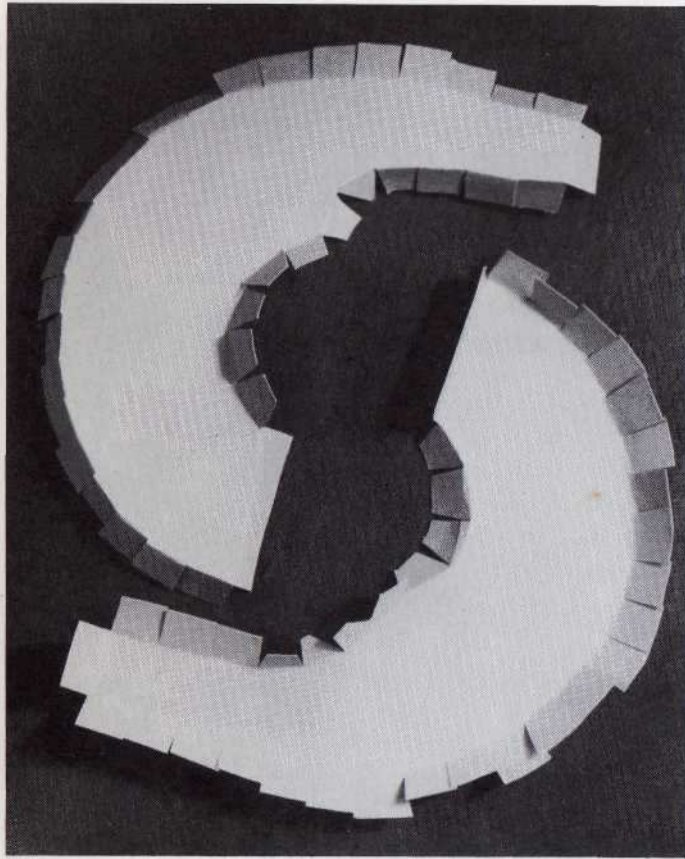
DIAGRAM 20







Figs. 113-115. Taping and stapling together Hades' helmet



Figs. 116 & 117. *Attaching the crest*



## 6 Stringing and Controls

### MATERIALS NEEDED:

Black nylon fish line, 10 lb. test  
Wood slats 1 x ½ inches, and 1 x ¼ inches  
Doweling 1 inch, ½ inch, and ¼ inch  
Strong cord  
Screws  
Screw eyes  
Screw hooks or cup hooks  
Rivets

There are two main types of controls, horizontal and vertical, and several variations of each. The simplest vertical control, which does an adequate job, is shown in Diagram 22. It is made of three pieces of wood about one-quarter inch thick. The leg bar is not removable, but is riveted in place so that it may be rocked up and down easily. It is a popular control in Europe but is not used much in the United States. Being all in one piece minimizes the danger of tangled strings. Another advantage is that it is a one-hand control; that is, the operator can make the marionette walk while holding the control in one hand.

The vertical control illustrated in Fig. 118 is a little more versatile and somewhat more complicated. The vertical piece is made of one-inch doweling. The leg bar of one-half or one-quarter inch doweling and the head bar, which goes right through the vertical piece, is one-quarter inch thick. A small piece of one-quarter inch doweling is glued in the back of the vertical piece and set at a downward angle for the back and shoulder strings. The leg bar is removable, and both hands must be used to make the puppet walk.

The horizontal airplane control, either double or single, is used for four legged animal puppets, but it does a fine job for human puppets too. The usual type has a

DIAGRAM 22

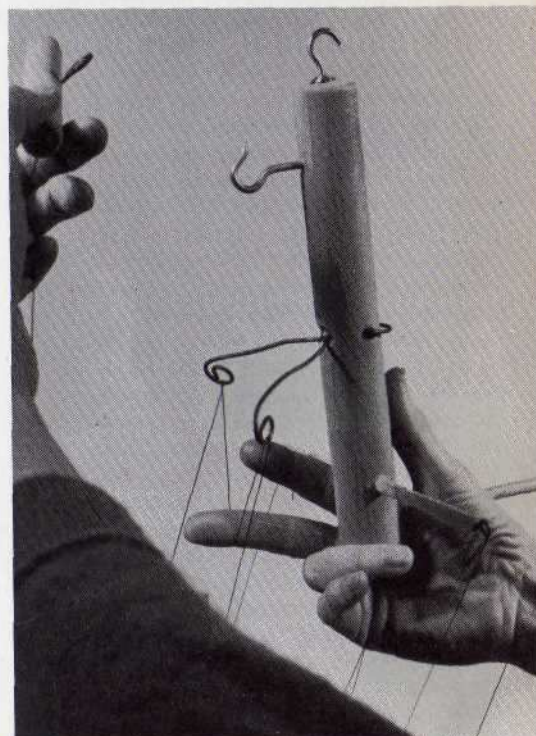
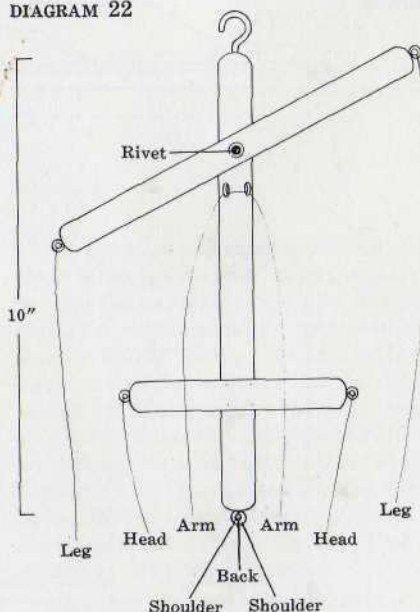


Fig. 118. Vertical control shown in Diagram 23, with removable leg bar

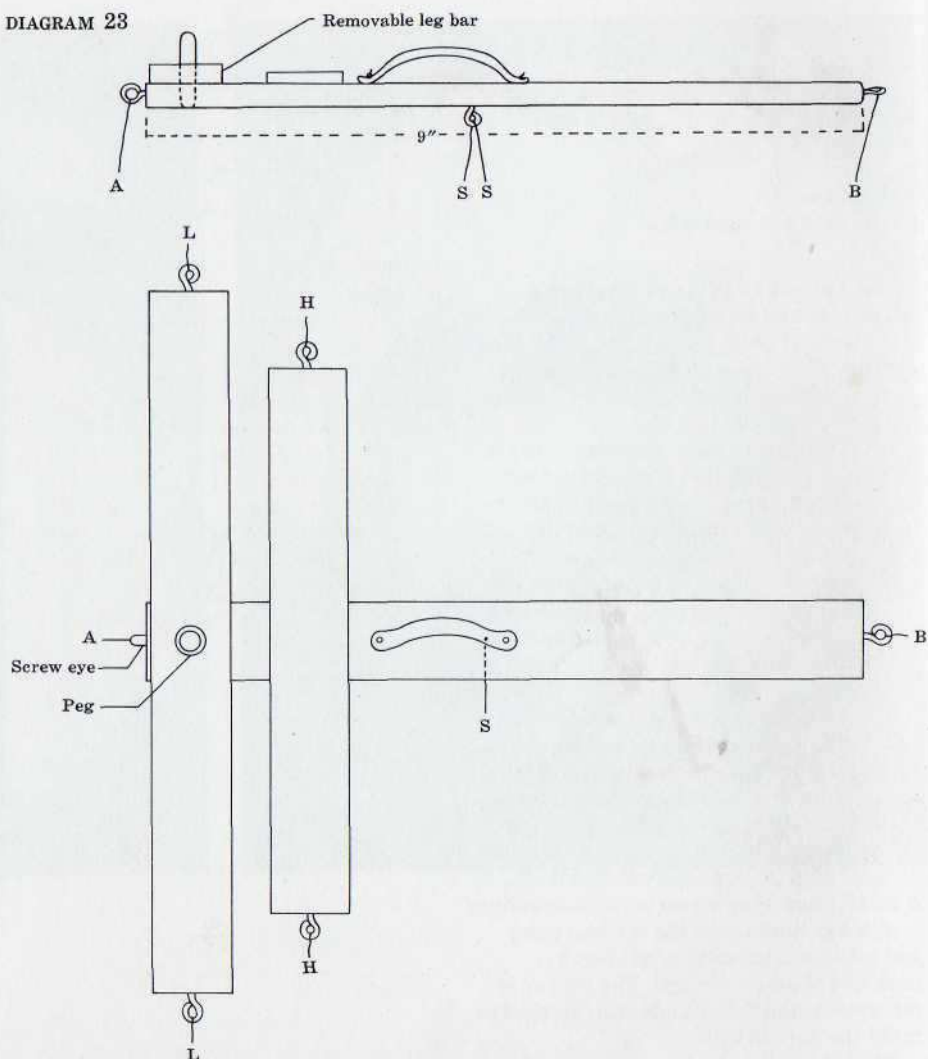
removable leg bar and needs two hands to operate if the puppet must be made to walk. This control is made of pieces of wood about one inch wide by one half or one quarter inch thick. The removable leg bar has a hole in the middle big enough to fit easily over a small peg (Diagram 23).

The double airplane control, for animals or people, is a one-hand control; only the legs of the marionette are strung to the upper part, which is then rocked up and down to raise and lower the legs without making the rest of the puppet sway (Diagram 24).

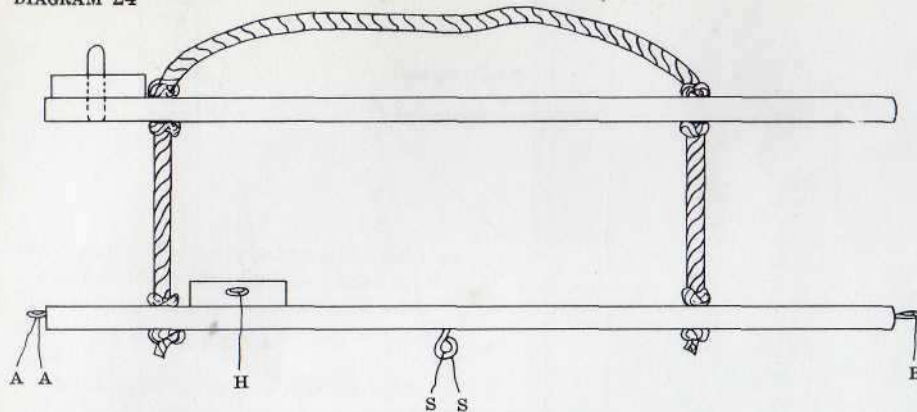
Marionettes are strung according to what they have to do in the play. If a puppet is wearing a long full skirt, it may not need to have strings attached to the legs at all if the puppeteer is clever enough to simulate a walking movement without them; indeed, it may not even need legs. Never use more strings than are necessary; the best plan is to have the simplest control with the least number of strings needed for whatever the puppet has to do in the play. If a puppet has nothing to do but make an appearance, he needs head strings only. Special stringing must be devised for particular or unusual movements and sometimes a more complicated control must be made to accommodate the extra strings. Many different types of controls may be used in the same show.

Black nylon fish line, 10 lb. test, is fine for stringing marionettes. Care must be taken to glue the knots so that they will never come untied during a show. Some puppeteers use transparent plastic fish line, but it is much harder to knot and reflects the stage lights. The length of the strings depends upon the height of the bridge or platform from which the

DIAGRAM 23







puppeteer operates the marionettes; anything over eight feet, however, is apt to be quite unmanageable.

In stringing a marionette it is necessary to devise some sort of rack placed high enough so that the puppet will hang full length from its control. Hang the control on the rack. The first strings to be attached are the head strings; be sure the head is level and that the head bar is parallel to it. The whole weight of the puppet is carried by the head strings. Next, attach the shoulder strings; these should be almost as taut as the head strings, but if they are pulled too tight the head will droop. The shoulder string may be a continuous running string. The arms and hands look better if they are slightly raised so their string, which is usually a continuous running string, is a little tight. The legs must be strung loose, especially if a removable leg bar is used, so that when the bar is lifted off the control to make the puppet walk, the legs will not be jerked.

One of the most difficult feats in puppetry is to make a puppet walk convincingly. Generally they tend to sway back with their arms dangling behind them and their legs jerking up and down well in front of them, sometimes missing the floor entirely. To counteract this sway back effect, some puppets are made to

hunch forward and their knees almost hit their faces. If it is possible in the play, try to have the puppet make a slow, delayed walk, full of pauses and interrupted by hand gestures. In any case, be sure the hands do not flop about or dangle. A good device for a marionette that must make long walks across the stage is to reverse the hand strings and attach them to the leg bar (Diagrams 25 and 26, Fig. 119). When the leg bar is moved so that the right leg is lifted, the left arm is also raised as in a human walk.

Now that the marionette is strung, practice with it in front of a mirror and see how many movements it can make. It will be discovered that the marionette will be responsive to very small movements of the strings. Try not to jerk, but aim for fluidity and grace. Slow but definite gestures are more easily interpreted by the audience. By tipping the control forward the puppet will bow; hold the shoulder string, and he will nod his head; still holding the shoulder string, turn the control to the side and he will turn his head. See how much can be done with one hand.

The double airplane control for two horses (Diagram 27, Fig. 120) may be used just as well for any four-legged animal or animals. If only one animal is being used, the cross pieces A to B and

H to G are not necessary, and the animal should be suspended from the bottom of the control in front of and behind the knots.

If a marionette must lift something to its face, a special string is attached to the hand holding the object and brought up through the head at the spot where the object is to go; the string is then pulled up through the top of the head and attached to the control at a convenient place. Tying a colored bead to the top of this string helps locate it in a hurry (Diagram 28). To make a puppet blow a horn or drink from a bottle, a string from the mouth of the horn or bottle must be brought through the mouth of the puppet and out the top of his head (Diagram 29).

The control for the talking flower is simply a dowel with a smaller dowel stuck into it at a right angle and a little spring between the smaller dowel and the petal strings. The spring is not essential but does give a better action. The flower is made to open and close its petals by revolving the control. Be sure the flower is sufficiently weighted to keep it on the ground (Diagram 13-B, p. 71). The walking or dancing flower lifts its feet when the control is rocked back and forth (Diagram 13-C, p. 71).

The chiffon ghost moves its arms up and down when the control is rocked, and

DIAGRAM 25

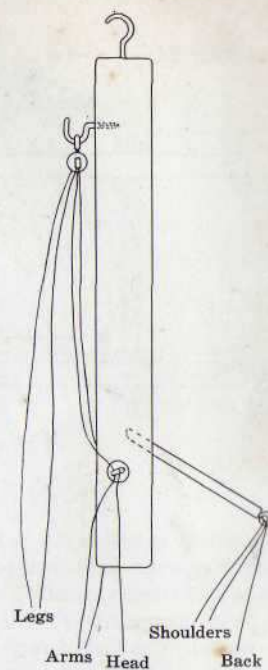
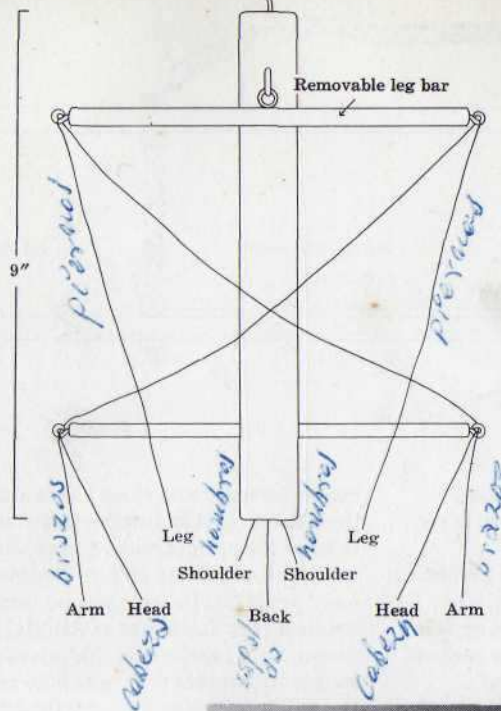
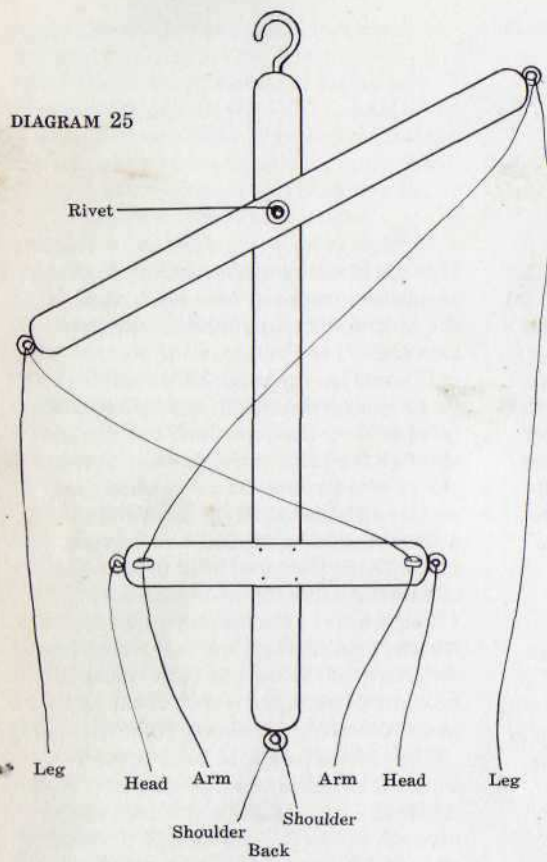
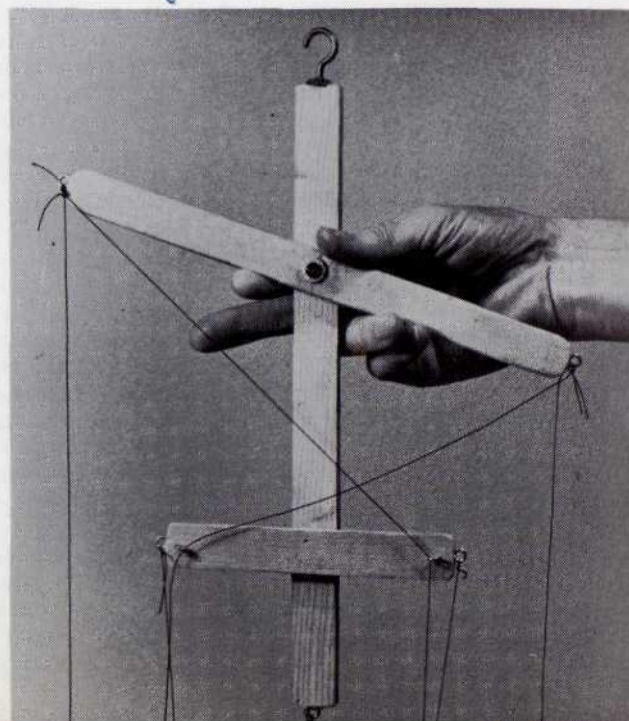


Fig. 119. Control shown in Diagram 25,  
with hand strings reversed and attached  
to leg bar





many eerie effects are achieved by floating it about in a subdued light or under black light if the ghost has been sprayed with fluorescent paint (Diagram 30; Fig. 108, p. 73).

The caterpillar control is made of two sticks joined together with a spring. If a spring is not handy, a piece of stout cord will do, but the control will then need two hands to operate. By bringing the ends of the control together the caterpillar can be made to bite its tail. An inchworm movement is made by bringing the center of the control up and the ends down and together, straightening the control and repeating (Diagram 12, p. 71).

Butterflies and other insects are usually attached by a thread to a long stick and floated or dangled about the stage. A more complicated butterfly is illustrated in Diagram 14, p. 72. Its control is made of a long stick with a cross piece at the end. The fish weight body of the insect is held by a thread with a very loose spring at the top so that the wings will open and close as the control is bounced gently up and down. If the butterfly is to rest on something, the weight should be heavy enough to hold it down and the spring loose enough to allow the wings to open and close when the control is raised and lowered.

To prevent strings from getting caught between the fingers of a marionette, attach thread across the finger tips (Diagram 31). The greatest hazard in a marionette show is strings getting caught on the furniture, scenery or on other puppets. Do all that is possible to prevent such accidents by being sure there are no sharp edges and that any crevices are bridged over by thread or fine wire.





To store a marionette so that it will not become tangled, hold the control in one hand and turn the hanging marionette around and around with the other until the strings are twisted all the way up to the control. Wind the strings carefully around the control. Wrap the control in a piece of cloth so that the strings will not be disturbed. Reverse the process, and the marionette and its strings should be in perfect working order. If a marionette becomes badly tangled, it is usually easier to cut the strings and restring it than to try to untangle it.

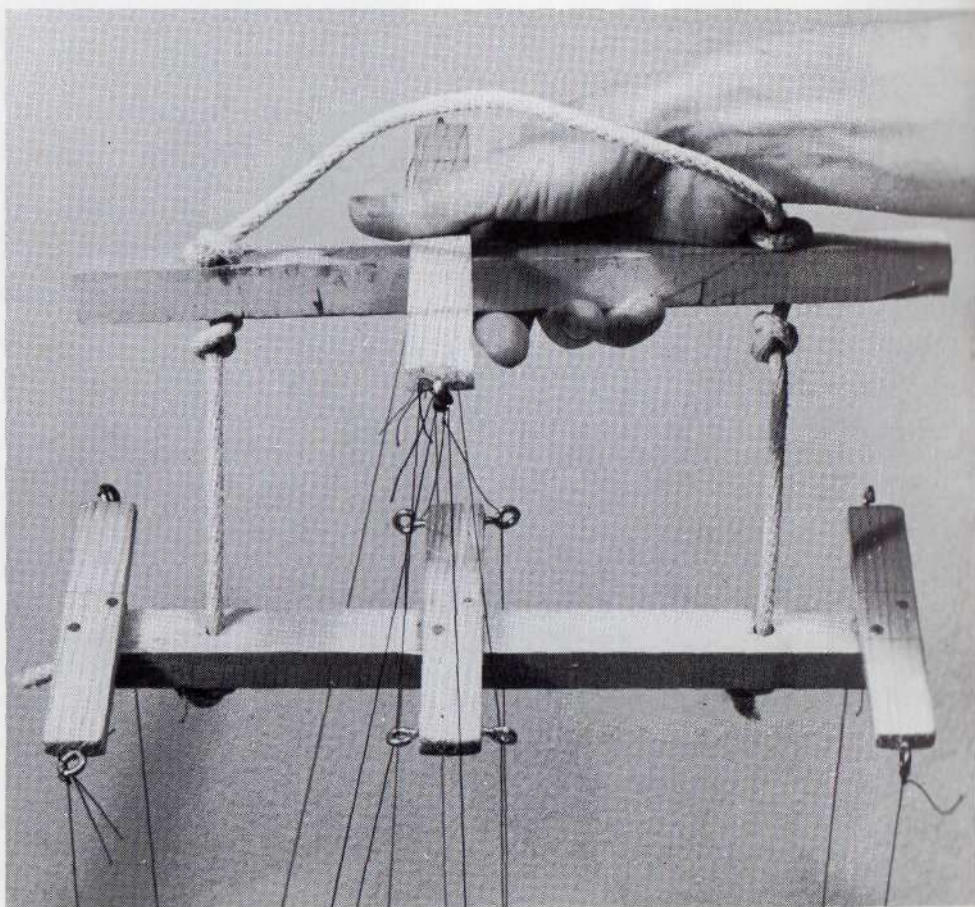
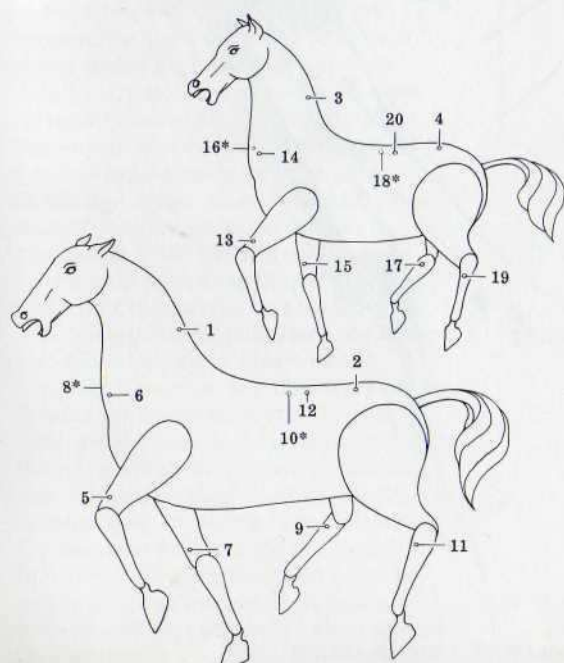
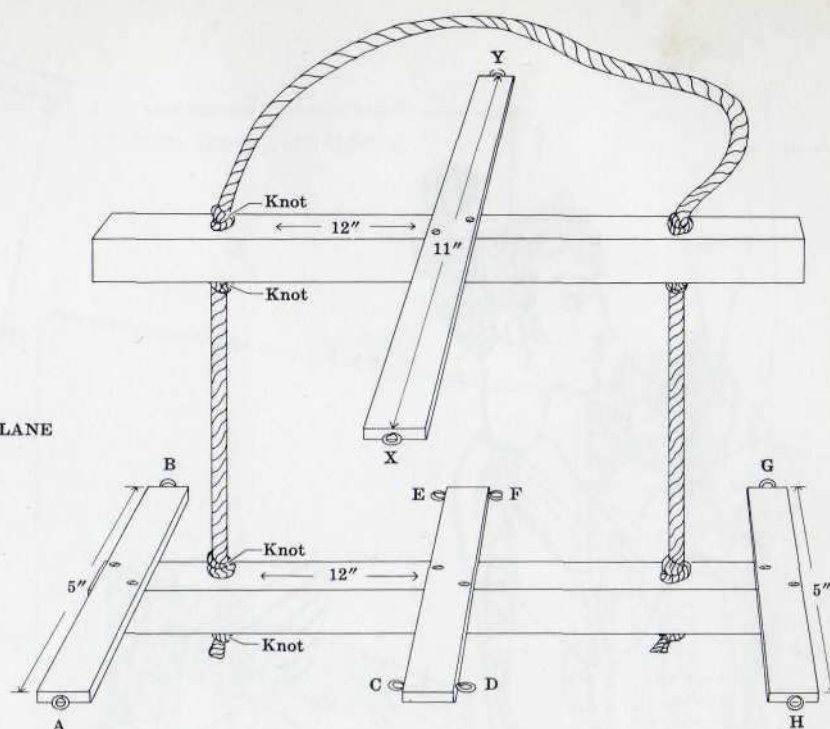


Fig. 120. Double airplane control for two animals shown in Diagram 27



DIAGRAM 27: STRINGING DOUBLE AIRPLANE  
CONTROL FOR TWO ANIMALS



From 1 to A

From 2 to H

From 3 to B

From 4 to G

From 5 pass through 6 to X

From 7 pass through 8\* pass through C to Y

From 9 pass through 10\* to X

From 11 pass through 12 pass through D to Y

From 13 pass through 14 pass through E to X

From 15 pass through 16\* to Y

From 17 pass through 18\* pass through F to X

From 19 pass through 20 to Y

\*Screw eye located in back

DIAGRAM 28

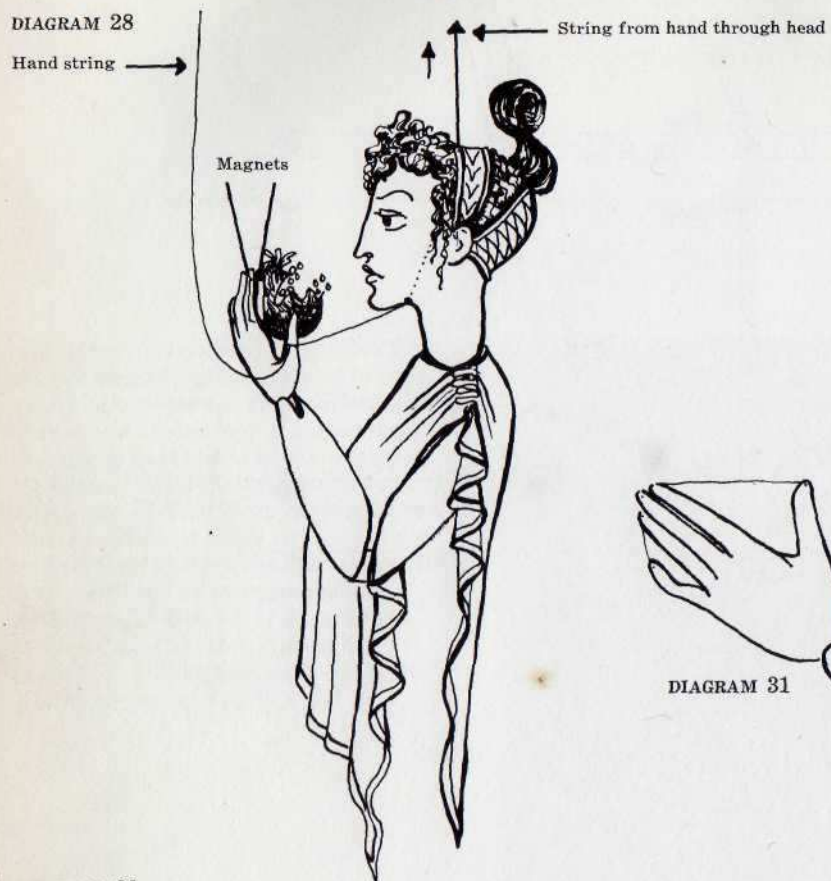


DIAGRAM 31

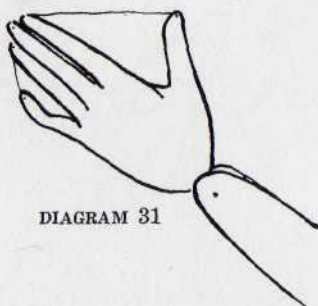


DIAGRAM 29

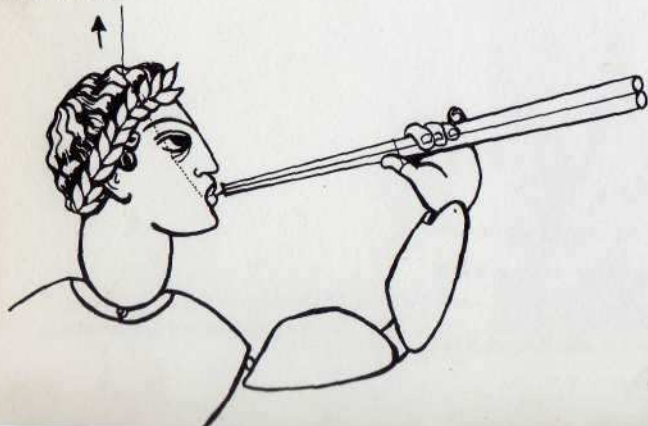
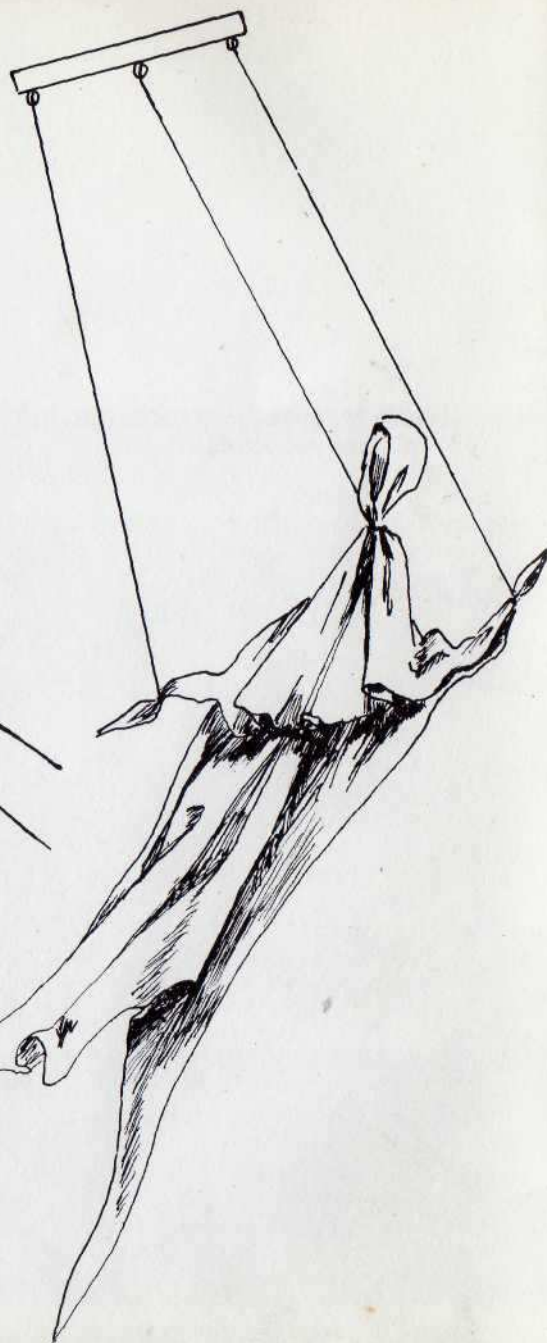


DIAGRAM 30: CHIFFON GHOST





## 7

## Theatre, Scenery, and Lighting

Marionette theatres can be improvised in a number of ways with screens, tables, and benches. The essential elements are a raised platform for the stage floor and a higher platform behind it for the puppeteers. Some puppeteers like to work over a screen which shields the lower part of their bodies and furnishes a background for the marionettes but leaves them exposed to the audience from the waist up. Others work in full view of the audience. For the most part, however, a theatre is built with a stage for the puppets, an operating bridge or platform for the puppeteers to stand on, and a leaning bar between the two to give the puppeteer a sense of balance (Diagram 32).

For twenty-inch marionettes the proscenium opening should be at least thirty inches high and five feet wide. Large, permanent marionette theatres sometimes have two operating bridges, the second one over the proscenium. With two bridges the operators can use a larger and deeper stage floor, and more complicated productions may be attempted. With one bridge, the stage floor should not be any deeper than two and a half feet, as that is about the maximum stretch a puppeteer can make and still manipulate a marionette properly (Diagram 33). The front of the theatre can be made up of a series of light-weight wooden frames covered with thin plywood or fiberglass and hinged together so that they may be folded up for transporting or storing. The platforms for the stage floor and the bridge might be made of specially designed boxes in which all the props, curtains, lights, scenery and puppets could be stored when they are not in use. During the show all

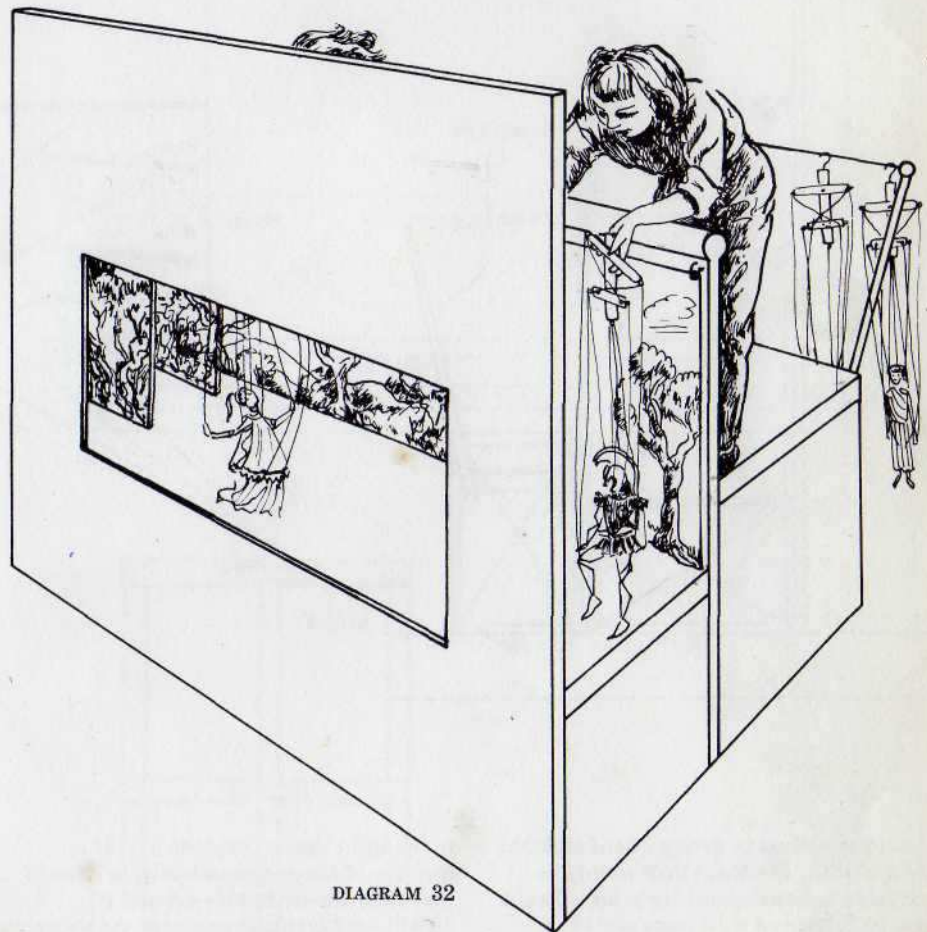
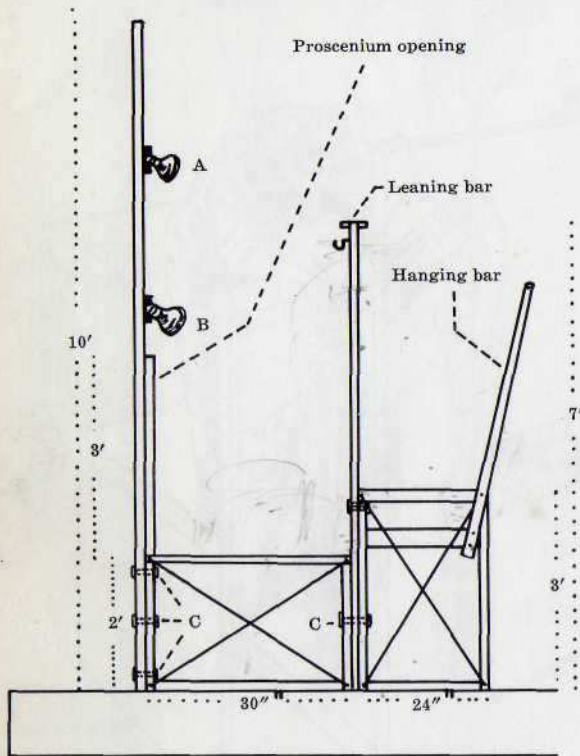


DIAGRAM 32

DIAGRAM 33

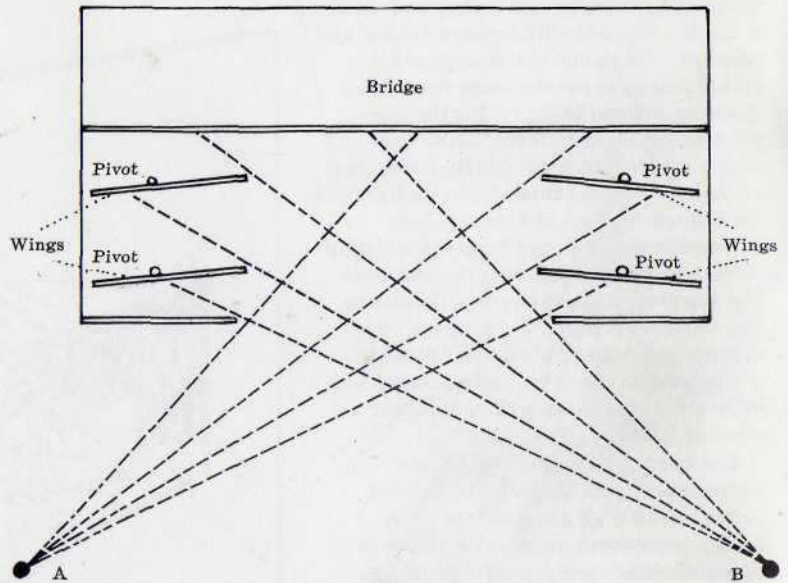


these parts must be firmly bolted together for stability. The stage floor should be carpeted and the operating bridge should also be furnished with some sort of covering so that there will be no danger of tripping over a rough surface or crack.

In proscenium staging it is important that the audience cannot see the puppeteer or the back stage equipment, so attention must be paid

to the sight lines (Diagram 34). If a member of the audience is sitting close to the stage and to the side (A and B), he will see far into the sides of the stage. To prevent him from seeing too much, wings must be installed to block his view. The wings near the front of the stage (down stage) should be slightly higher than the proscenium opening; those farther back (up stage) should be as high

DIAGRAM 34: SIGHT LINES



as the leaning bar. They may be made of canvas or unbleached muslin stretched on a light frame of wood with a long piece of doweling in the back for a pivot. The dowels can be dropped into holes drilled right into the stage floor (Diagram 35). The wings may be painted to match the scenery and can be made to look like trees, shrubbery, parts of houses or whatever fits in with the scenic



design (Diagram 32). The wings may be made reversible by inserting the pivot through holes in the wood frame and covering both sides with cloth.

Scenery for a marionette theatre should be kept to a minimum. It should never compete with the puppets, and above all, again, it should not have any rough edges or projecting parts to get in the way of the strings. Hooks should be put in front of the leaning bar to hold the backdrop. If several changes of scene are required, arrange the scenery in layers so that as each scene is finished the next will be ready. A convenient way to change the scenery is to have it on rollers (Diagram 36); as each scene is completed the scene is rolled up, revealing the next scene underneath. Rubber base wall paint is recommended for painting on canvas or muslin.

The curtain is an important part of the marionette theatre; it is the first thing the audience looks at and should be as attractive as possible. If the front of the theatre is painted or decorated in a lavish manner, then the curtain should be of a plain fabric. Conversely, if the theatre is plain, then the curtain might be embellished. Diagram 37 shows the mechanics of a draw curtain; the curtain itself was not drawn in so that the method of pulling the curtain rings could be shown more clearly. The amount of fabric needed for curtains of this type is at least twice the width of the opening. The curtain is sewn onto the curtain rings and is hung on regular curtain rods. The fixtures may be purchased anywhere window furnishings are sold, but be sure to buy two short rod holders and two long enough to fit over

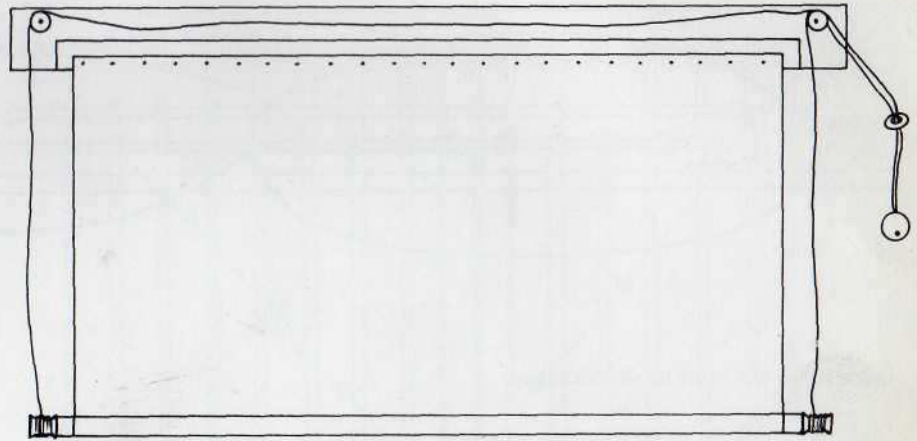


DIAGRAM 36

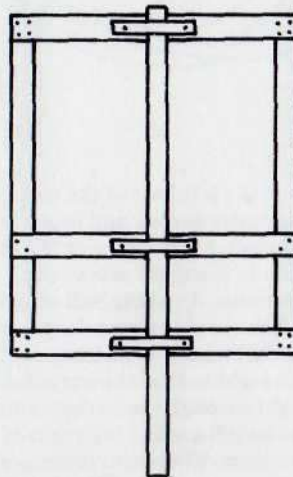
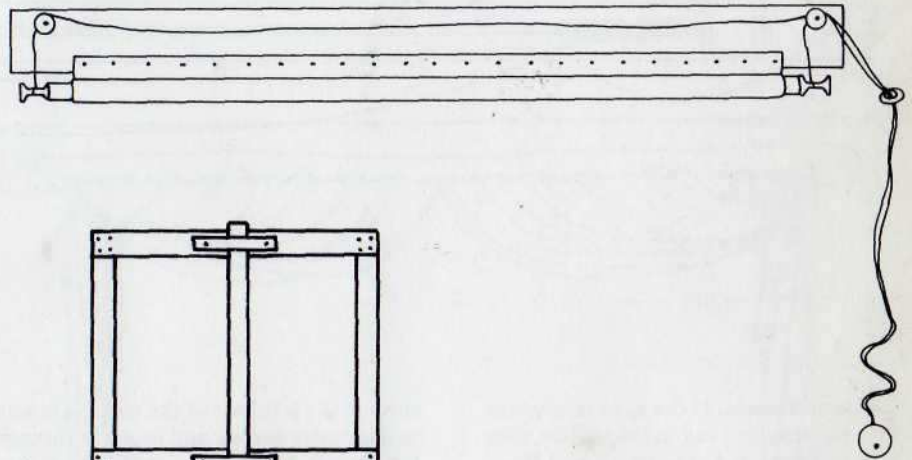


DIAGRAM 35: WING

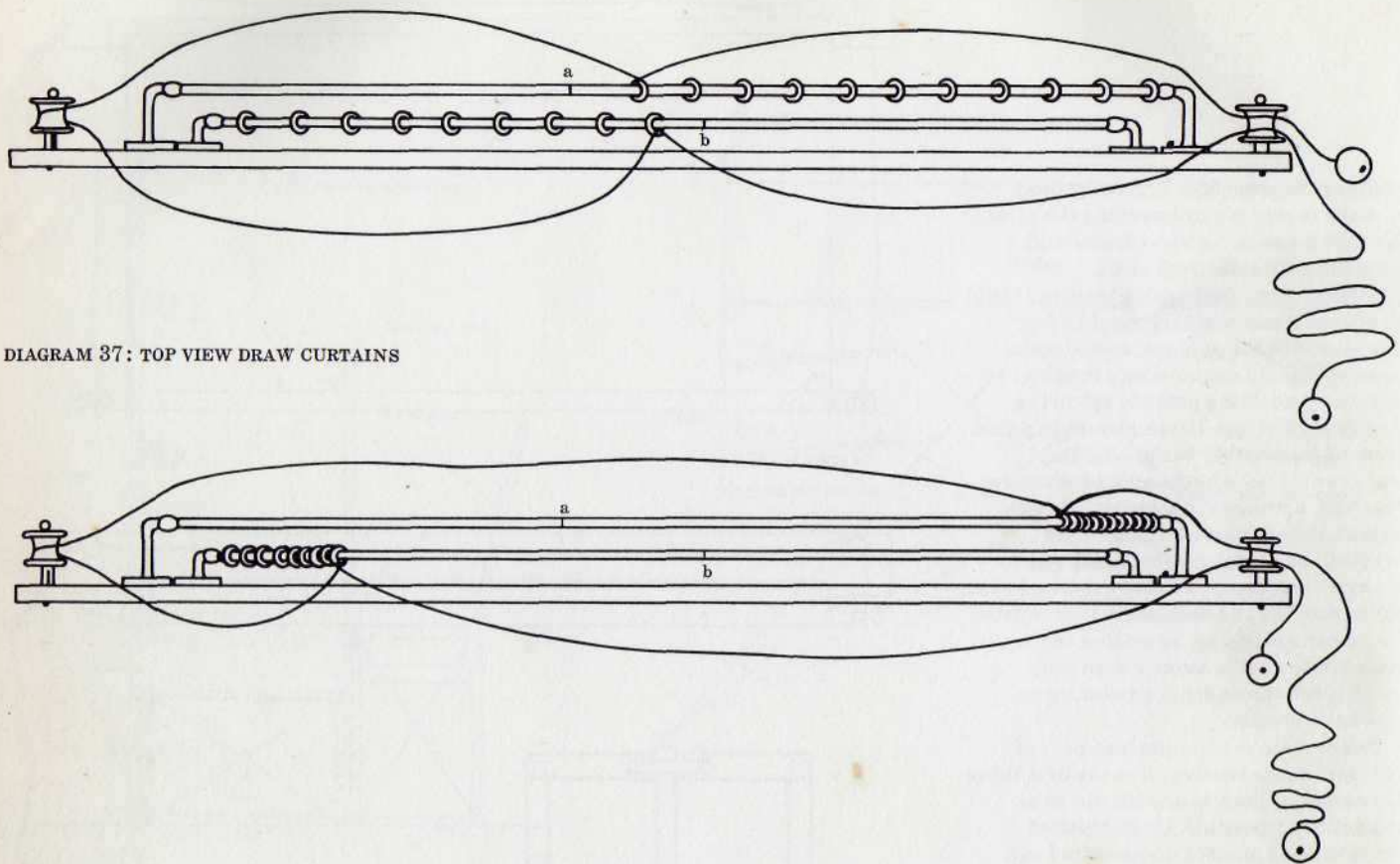


DIAGRAM 37: TOP VIEW DRAW CURTAINS

the short holders. If the span is so great that the curtains sag in the middle, they may be supported at points *A* and *B* by string or wire. When the roll curtain (Diagram 36) is rolled up, the cord must be fastened to something to prevent the curtain from closing.

Diagram 38 shows the draped curtain. This curtain is in two parts and is gathered or pleated at the top and tacked to the inside of the proscenium arch. Curtain rings are sewn onto the back side of the curtains diagonally from the bottom center corners to the top. The

cord on the left half of the curtain is sewn to the center corner and brought through the curtain rings and over the top of the curtain to the right side of the proscenium. A rubber ball attached to the end of the cord is convenient to grasp when pulling the curtain open. The cord on the right half of the curtain is brought through the curtain rings and joins the left cord at the right of the proscenium. These two cords are pulled simultaneously to open both curtains but may be pulled separately if only half of the stage is to be revealed for some special

effect. Large screw eyes (*A* and *B*) should be placed on the right and left of the proscenium for the curtain cords to pass through.

All lighting should be controlled at one switch or box. If several cords are unavoidable, keep them well out of the way of the puppets and the puppeteers. Spotlights, floods, and strip lights are fine but expensive and bulky. Self-reflecting floodlight bulbs and spotlight bulbs are readily available. They can be fitted with collars that hold colored filters, and the bulbs themselves come in



several different colors. Four of these lights should be enough to light most small stages adequately (Diagrams 33 and 39). Attach them to the framework of the proscenium. Porcelain sockets may be screwed permanently into the framework or sockets with clips and swivels may be used. Place lights *A* high enough to clear the wings and cast a good light on the scenery behind them. Lights *B* are placed lower to cast a pleasing light on the marionettes.

A simple way to create a flickering light or lightning effect is to mount a mercury switch vertically on a fairly strong spring and attach the spring to a board. If the board is taped to the floor, the switch may be kicked with the foot. When the mercury is disturbed the electric connection is broken and the lights flicker. Be sure to tape the toggle switch to the "on" position.

If the back drop is of painted cloth, a good moonrise effect is achieved by holding a flashlight close to the back of the scenery and slowly moving it up and out (Diagram 40).

The crack and rumble of a thunderstorm is reproduced by shaking a large sheet of tin or aluminum. The sound of falling rain is made by rattling dried peas over a piece of screening. Two coconut shells clapped together or against a board sound like galloping horses. Special effects are great fun and often make an enormous contribution to the quality of a puppet play. Most of them call for a good deal of bulky equipment, however, and require several extra people to perform them at exactly the right moment in the play. It may be more convenient to put the sound effects, music, and perhaps

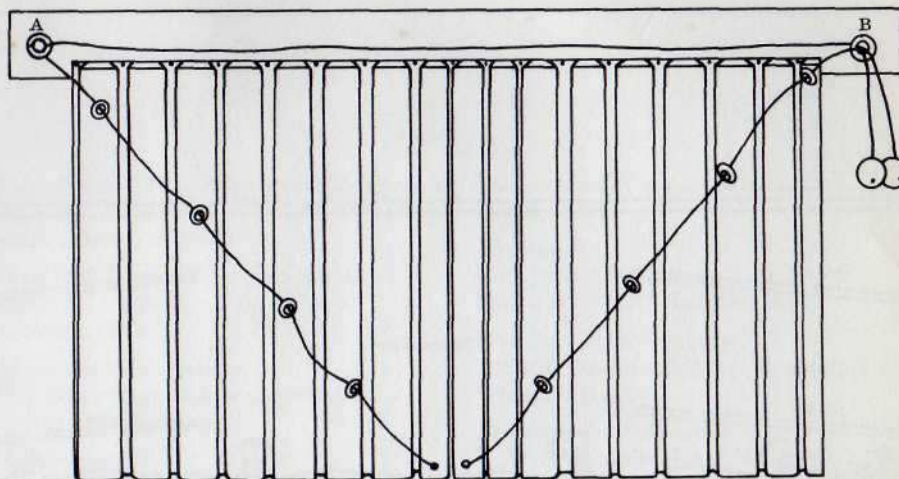
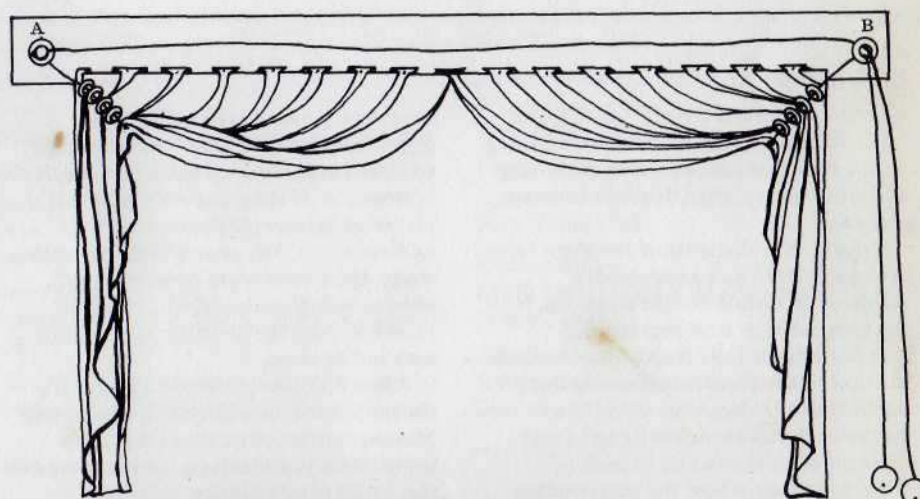


DIAGRAM 38



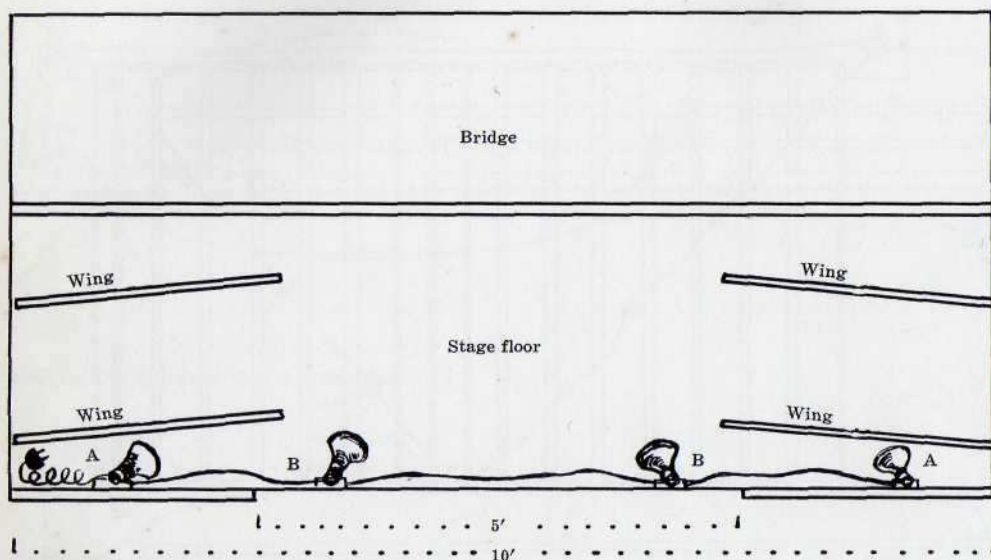


DIAGRAM 39: LIGHTING

even the voices for the marionettes, on tape. With adequate rehearsals, working with a tape recorder becomes quite easy and eliminates a good deal of backstage confusion.

Once all the elements of the show have been completed and assembled, a rehearsal schedule should be set up. Now the director is of first importance. If it is possible, the director should remain in front of the theatre and guide the marionettes through the play. The puppeteers can never really tell from their position above and in back of the stage exactly how the marionettes look from the front. If no one can be spared to act as a fulltime director, set up a large mirror in front of the stage and remove the proscenium for the rehearsal period. The director must see to it that everything is clearly seen and heard

from every part of the auditorium. Sight lines must be checked and wings adjusted to make sure nothing undesirable is revealed. If the puppet theatre is placed on a high platform and the audience is seated several feet below the stage, the proscenium opening might need to be lowered or the leaning bar raised so that the working puppeteers may not be seen.

After all these problems are solved, the play itself should be well rehearsed. Moving marionettes about the stage beautifully is difficult; a simple cross over can cause consternation if it is not expected by all the puppeteers. Split second timing and smooth teamwork is vital. The work and the planning are over and it is now up to the puppeteers to bring life and vitality to the marionettes and joy to the beholders.

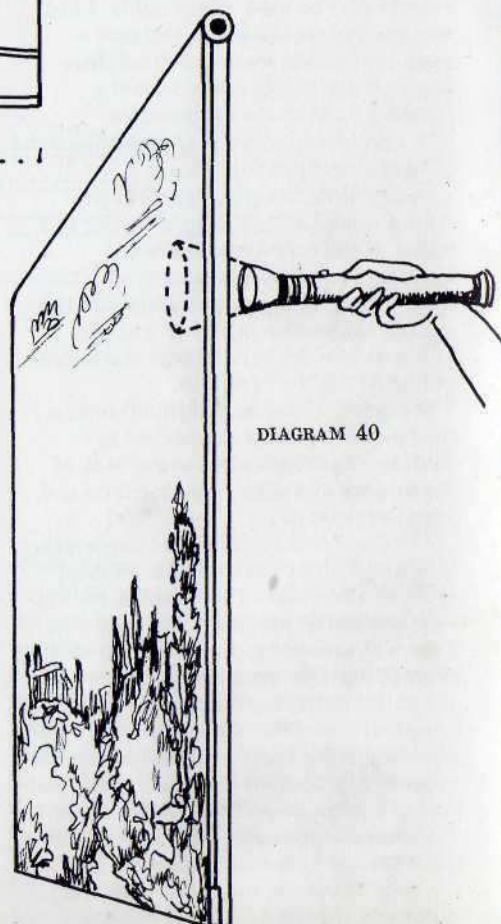


DIAGRAM 40



# BIBLIOGRAPHY

- Making and Staging Marionettes*,  
Bil Baird & Woman's Day Workshop.  
Woman's Day, Inc., 1951.
- Historic Costume for the Stage*,  
Lucy Barton. Walter H. Baker Co.,  
Boston, 1935.
- Baracca e Burattini*,  
Società Editrice Internazionale, 1936
- Puppets and Puppetry*,  
Cyril Beaumont. The Studio Publications,  
London, New York, 1958.
- The Puppet Theatre Handbook*,  
Marjorie Batchelder. Harper and Bros.,  
New York, London, 1947.
- Puppets and Fairy Tales*,  
Kamil Bednár. Prague, 1958.
- Dolls and Puppets*,  
Max von Boehn. G. G. Harrop & Co., Ltd.,  
London, 1932.
- Through Wooden Eyes*,  
Jan Bussell. Faber & Faber Ltd.,  
London, 1956.
- Histoire Général des Marionnettes*,  
Jacques Chesnais. Bordas, 1947.
- On the Art of the Theatre*,  
Edward Gordon Craig. Theatre Arts Books,  
New York, 1957.
- The Marionette To-Night*,  
"The Mask" Publishers (E. G. Craig  
magazines), Florence, 1918.
- Wooden Stars, The Lanchester Marionettes*,  
Douglas Fisher. T. V. Boardman & Co., Ltd.,  
London, New York, 1947.
- Hand Puppets and String Puppets*,  
Waldo S. Lanchester. Dryad Press,  
Leicester, 1957.
- J'Aime les Marionnettes*,  
Paul-Louis Mignon & Jean Mohr.  
Edition Denoël, Paris.
- The Marionette*,  
George Merten. Thomas Nelson & Sons,  
Toronto, New York, Edinburgh, 1957.
- Marionette in Motion*,  
W. A. Dwiggin. Puppetry Imprints,  
Michigan, 1939.
- Trick Marionettes*,  
Nelson & Hayes. Puppetry Imprints,  
Michigan, 1935.
- Mon Métier*,  
Serguei Obratzov.  
Edition en Langues Etrangères, Moscou.
- The Puppet Theatre in Germany*,  
Hans R. Purschke.  
Neue Darmstadter Verlagsanstalt,  
Darmstadt, 1957.
- Marionettes*,  
Donald W. Seager. The Studio Publications,  
London, New York, 1952.
- The History of the English Puppet Theatre*,  
George Speaight. George G. Harrap & Co.,  
Ltd., London, Toronto, Wellington,  
Sydney, 1955.
- Mr. Punch*,  
Philip John Stead.  
Evans Bros., Ltd., London, 1950.
- Und Sein Figurenspiegel*,  
Richard Teschner. Eduard Wancura Verlag,  
Wien, Stuttgart.
- Puppetry for School and Home*,  
H. W. Whanslaw. Thos. Nelson & Sons,  
London, Edinburgh, Toronto,  
New York, 1937.
- Costumes of the Greeks and Romans*,  
Thomas Hope. Dover Publications, Inc.,  
New York, 1962.
- Practical Puppetry*,  
John Mulholland. Arco Publishing Co., Inc.,  
New York, 1961.
- Larousse Encyclopedia of Mythology*,  
Prometheus Press,  
New York, 1959.
- The New Century Classical Handbook*,  
Appleton Century Crofts,  
New York, 1962.
- Mythology*,  
Edith Hamilton. Little Brown and Co.,  
Boston, 1946.
- The Greek Myths*,  
Robert Graves. Penguin Books,  
Baltimore, 1955.

# Index

- Animals, construction of, 67-72  
 Armor, 74, 78. *Diag.* 19  
 Arms, construction of, 47-50, 58. *Diags.* 1, 3, 7. *Figs.* 66-76, 94, 95, 100-102  
 Artificial flowers (*See* Flowers)  
  
 Balsa wood, 43, 44, 47, 62  
 Beads (*See* Wooden beads)  
 Beards, 35  
 Bodies, construction of, 43-62  
 Bunraku Theatre, 7  
 Butterflies, 17, 72. *Diag.* 14  
  
 Caterpillar, 17, 71, 85. *Diag.* 12  
 Cellulose kitchen sponge, 62  
 Cerberus, 16  
 Controls, 81  
   Airplane, 81, 82. *Diag.* 23  
   Double airplane, 82. *Diag.* 24  
   Simple vertical, 81. *Diag.* 22  
   Vertical, 81. *Fig.* 118  
 Costumes, 74  
 Craig, Gordon, 7  
 Curtains, 91, 92. *Diags.* 36-38  
 Curtain rings, 92  
 Czechoslovakian puppet films, 8  
  
 Demeter, 17, 58  
 Dragons, 70  
 Draped curtain, 92. *Diag.* 38  
 Draw curtains, 91. *Diag.* 37  
  
 Electric light bulb as form for head, 19  
 Eyes of jewels, 35  
  
 Feathers for hair, 17  
 Feet (*See* Hands and feet)  
 Flowers, 17, 70, 83  
 Flowers, construction of, 70. *Diags.* 13-B, 13-C, 13-D  
 Flowers, controls for, 83. *Diags.* 13-B, 13-C  
 France, Anatole, 6, 16  
 France, children of, 8  
  
 Ghost made of chiffon, 17, 72, 83, 85  
 Goethe's *Faust*, 7  
 Greaves, 78  
 Guignol, 7  
  
 Hades, 16-19, 28, 74, 78  
 Hair (*See* Wigs and beards)  
 Hair, curling fringe for, 74  
 Hair, feathers for, 17  
 Hands and feet, construction of, 55, 64-66.  
   *Diag.* 6. *Figs.* 86-94, 100-104  
 Hanswurst, 7  
 Haydn, 7  
 Head, modeling and casting the, 19-35  
 Headdress, 74  
 Helmet, 78. *Diag.* 21. *Figs.* 111, 113-117  
 Hermes, 6, 18  
 Hips, construction of, 51, 62. *Diags.* 4, 9.  
   *Figs.* 77-80, 100-102, 104  
 Horses, construction of, 67, 68. *Diag.* 10.  
   *Figs.* 105, 106  
 Horses, double airplane control for, 83.  
   *Diag.* 27. *Fig.* 120  
 Horses, sound of galloping, 93  
  
 Japanese puppet theatre, 7  
 Jewels for eyes, 35  
  
 Kasperl, 7  
 Kore, 6  
  
 Legs, construction of, 53, 62. *Diag.* 5.  
   *Figs.* 81-85, 100-104  
 Light bulb as form for head, 19  
 Lighting, 92, 93  
 Lightning effect, 93  
  
 Magnets, use for, 70. *Diag.* 13-D  
 Manes for horses, 68  
 Moonrise effect, 93  
 Motion pictures, 7, 8  
 Milton's *Paradise Lost*, 7  
  
 Persephone, 6, 16-18, 28, 35, 58, 62, 67, 74  
 Pierrot, 6  
  
 Ping pong ball for head, 17  
 Plaster of Paris backing for mold, 31  
 Plastic wood for casting head, 33  
 Plastic wood for filling out form, 53.  
   *Fig.* 85  
 Polichinelle, 6, 7  
 Pulcinella, 7  
 Punch, 7  
 Puppets, history of, 7  
  
 Rain, 93  
 Roll curtain, 92. *Diag.* 36  
  
 Sand, George and Maurice, 7  
 Sandals, 74. *Fig.* 112  
 Scenery on rollers, 90. *Diag.* 36  
 Shakespeare's plays as puppet material,  
   16  
 Sheet lead, 43, 51, 55, 62  
 Sight lines, 90. *Diag.* 34  
 Snakes, construction of, 70  
 State controlled puppet theatres, 8  
 Storing the marionette, 86  
 Stringing, 81  
  
 Tails for horses or other animals, 68  
 Tape recorder, use of, 93, 94  
 Tartarus, 18  
 Tartarus, damned soul for, 17  
 Tartarus, gates of, 16  
 Television, puppets on, 8  
 Theatre, construction of, 89-91  
 Thunderstorm, 93  
 Torso, construction of, 44-47, 62. *Diags.* 2, 8. *Figs.* 60-65, 98-102  
  
 Walking a puppet, 83  
 Wigs and beards, 35, 74  
 Wings, construction of—for theatre,  
   90, 91. *Diags.* 32, 35  
 Wings, reversible, 91  
 Wooden beads for fantastic puppets, 68.  
   *Diag.* 12  
 Zeus, 6, 18, 19, 24, 28



### About the book

In both design and illustrations, this is one of the most beautiful books written on the art and craft of marionettes. Using the myth of Persephone, the author creates a fascinating cast of human, animal, and fantastic characters which can be adapted to a wide variety of puppet plays. A clear text and over 150 photographs and diagrams illustrate in close detail every step in making and presenting marionettes: casting the heads; cutting out and assembling the bodies; creating and animating unusual forms (flowers, butterflies, ghosts, etc.) ; stringing and controlling; designing costumes and scenery; building a puppet theatre. There is a short illustrated history of puppets the world over.

Compact, richly illustrated, and easy to follow, *PRESENTING MARIONETTES* is ideal for school group projects, taking advantage of every young person's individual creative talents. Amateur and professional puppeteers, craftsmen, sculptors, and designers will find excitement and inspiration in this handsome, informative book.

Reinhold Publishing Corporation / New York  
an Art Horizons book

### About the author

Susan French has been an actress, commercial artist, teacher, photographer, and puppeteer. Her first and most abiding love is for the theatre. Out of this love she has created a theatre for puppets that is serious, amusing, fantastic, and real. For the last eight years she has devoted herself entirely to her small theatre and is now engaged in producing a series of dramatized Greek myths.

Reinhold Publishing Corporation / New York  
an Art Horizons book

Jacket designed by The Push Pin Studios, Inc.

# Art Horizon Series

A new series of art instructional books designed for modern people. The most important techniques and media in the arts and crafts are being explored by outstanding practicing artists who are also teachers. Each book has concise, imaginatively presented references. The history of the subject and its aesthetic criteria are explored in text and pictures with appropriate explanations of subject, approach and technical development.

## READY NOW

### **CERAMIC SCULPTURE** by Betty Davenport Ford

Step-by-step procedure and detailed visualizations of the construction of animal, human, plant, and abstract forms—from simple to advanced. Information on clays, firing procedures, and finishes. 96 pp., over 150 black-and-white illustrations, 2 pp. in full color, 8 x 8  
\$5.50

### **PRESENTING MARIONETTES** by Susan French

Covers in detail every step in making and presenting marionettes: casting heads; cutting out and assembling bodies; animating unusual forms; stringing and controlling; costumes, scenery, theatre. 96 pp., over 170 photographs and diagrams, 8 x 8  
\$5.50

### **BATIK: ART AND CRAFT** by Nik Krevitsky

Comprehensive introduction to traditional and contemporary wax-and-dye techniques for decorating fabric and paper. 68 pp., 110 black-and-white illustrations, 2 pp. in full color, 8 x 8  
\$5.50

### **COLLAGE AND FOUND ART** by Dona Meilach and Elvie Ten Hoor

A series of fascinating projects using torn and cut papers, magazine cutouts and prints, textiles, mixed media, applied and built-up relief, and "found" objects. 68 pp., over 100 black-and-white illustrations, 2 pp. in full color, 8 x 8  
\$5.50

(ALL PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE)



**REINHOLD PUBLISHING CORPORATION**  
430 Park Ave., New York, New York 10022