

MAKING WOODEN TOYS

**12 Easy-to-Do Projects
with Full-Size Templates**



James T. Stasio

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with Full-Size Templates

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CONTENTS

3 Introduction	11 Oil Truck
5 Helicopter	12 Destroyer
6 Biplane	13 Cargo Ships
7 Freight Train	14 Circus Animals and Acrobats
8 Rocking Horse and Squirrel	15 Work Truck
9 Doll Cradle	16 Fighter Plane
10 Truck Bank	

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INTRODUCTION

In recent years, toys have become more sophisticated. The computerized doll, the battery-operated truck, the remote-control tank have all been built to allow the child to sit, press a button, and watch the show. Yet the toy that is remembered most is the wooden one built by Dad or Grandpa for that special someone on that special day.

I have created this book to enable even relatively inexperienced hobbyists and craftsmen to derive a sense of accomplishment in fashioning wooden toys that will be cherished for generations. All of these toys can be made easily, using easy-to-find materials and simple tools. The book is designed so that no special instructions are necessary. For each project, a List of Materials tells you what you need, an Exploded Diagram and a photograph show how the pieces fit together, and exact-size templates enable you to cut the wood to precise dimensions. You may modify the dimensions I give to suit the tools you possess. Feel free to experiment as long as you are reasonably certain that your planned modifications will work.

Before beginning, you will need to choose a type of wood to work with. I recommend pine, for several reasons. It is inexpensive and available everywhere. It is easy to work with and readily takes nontoxic paints, stains, and oils. Finally, it finishes nicely, with a mellow color and smoothly flowing grain.

The toys in this book can be made using basic hand tools. Power tools will of course expedite your project, but they are not necessary. To make the wheels I used a portable electric drill (you may substitute a hand drill) with hole saws and mandrels measuring 1", 1¼", and 1⅞". (The requirements for the projects are not strict. If you possess different-size hole saws, you may be able to make perfectly good toys with a few simple modifications.) Sand the outside of the wheels with #100 sandpaper. This will give the wheels a fine finish that will allow your toy to roll smoothly.

For simplicity's sake, I have limited the number of drill bits you will need to five: ⅛", ¼", ⅜", ½", and ¾". With these, a drill to put them in, a workbench with a wood vise to hold your project while you are working on it, and the kinds of saws and screwdrivers commonly used for handywork around the house (a jigsaw or band saw will of course speed things up), in addition to the hole saws and mandrels mentioned above, you will have all the tools you need to complete any of these toys. Remember also to have on hand glue and several grades of sandpaper.

Some words of advice are in order at this point. Wherever possible, cut the wood so the grain runs lengthwise. Before gluing and finishing, sand the entire toy (sand always *with* the grain). Always begin with a rougher grade of sandpaper and work down to a finer grade. Remember, any time you spend in carefully sanding your toy will be rewarded by the pleasure you take in contemplating the fine finish and professional appearance of your work.

You may choose to paint any of these toys. Always use a nontoxic paint, as young children tend to put things in their mouth. Many companies offer a fine selection of colorful paints. Check the stock at your local crafts store. If you elect to paint your toy, the parts should be painted *before* gluing them together.

Instead of painting, you may apply a coat of varnish or even leave the wood unfinished. For a simple but effective finish, apply a light coat of linseed oil. This will lend the toy a golden color and emphasize the natural grain of the wood.

As you acquire experience working on these projects, you may wish to make a few alterations. Depending on your skill and desire, you may want to, say, add a smokestack, remove a dowel, or add a wheel. Feel free to make these changes or any that permit you to make maximum use of the tools you have on hand. The finished toy will then become a truly individual creation that you may give with pride.

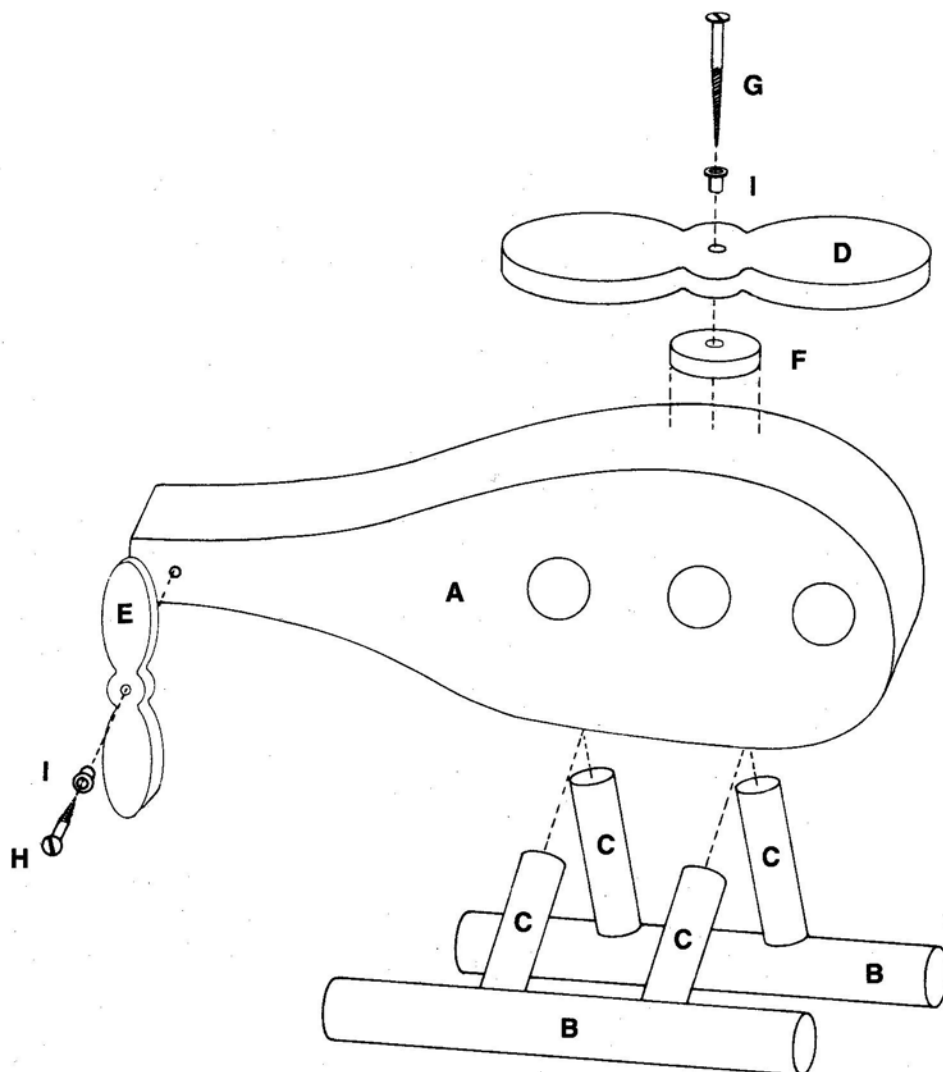
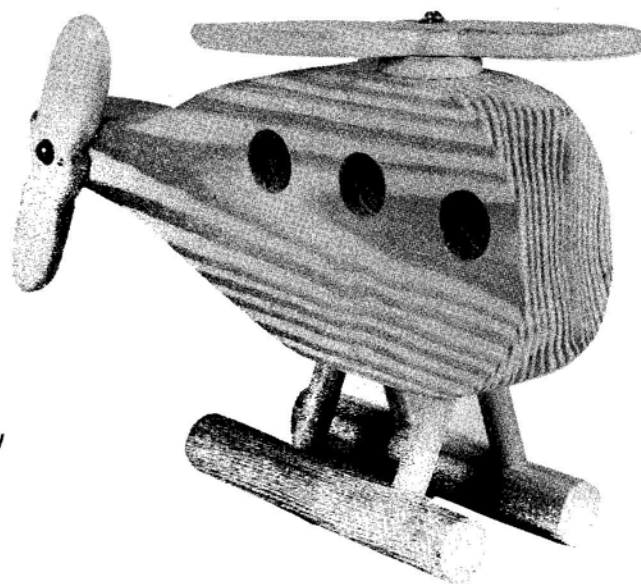
HELICOPTER

(templates on Plate 1)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Body Frame	1	9" × 3" × 1½"
(B) Stands	2	5½" × ¾" dowels
(C) Stand Posts	4	2" × ½" dowels
(D) Large Propeller	1	5" × 1" × ½"
(E) Small Propeller	1	3" × ⅝" × ½"
(F) Motor	1	1" × ½"
(G) Screw	1	1½"-long #6 wood screw
(H) Screw	1	1"-long #6 wood screw
(I) Eyelets	2	¼" metal eyelets

Note: The body frame (A) may be cut from a suitable length of two-by-four.

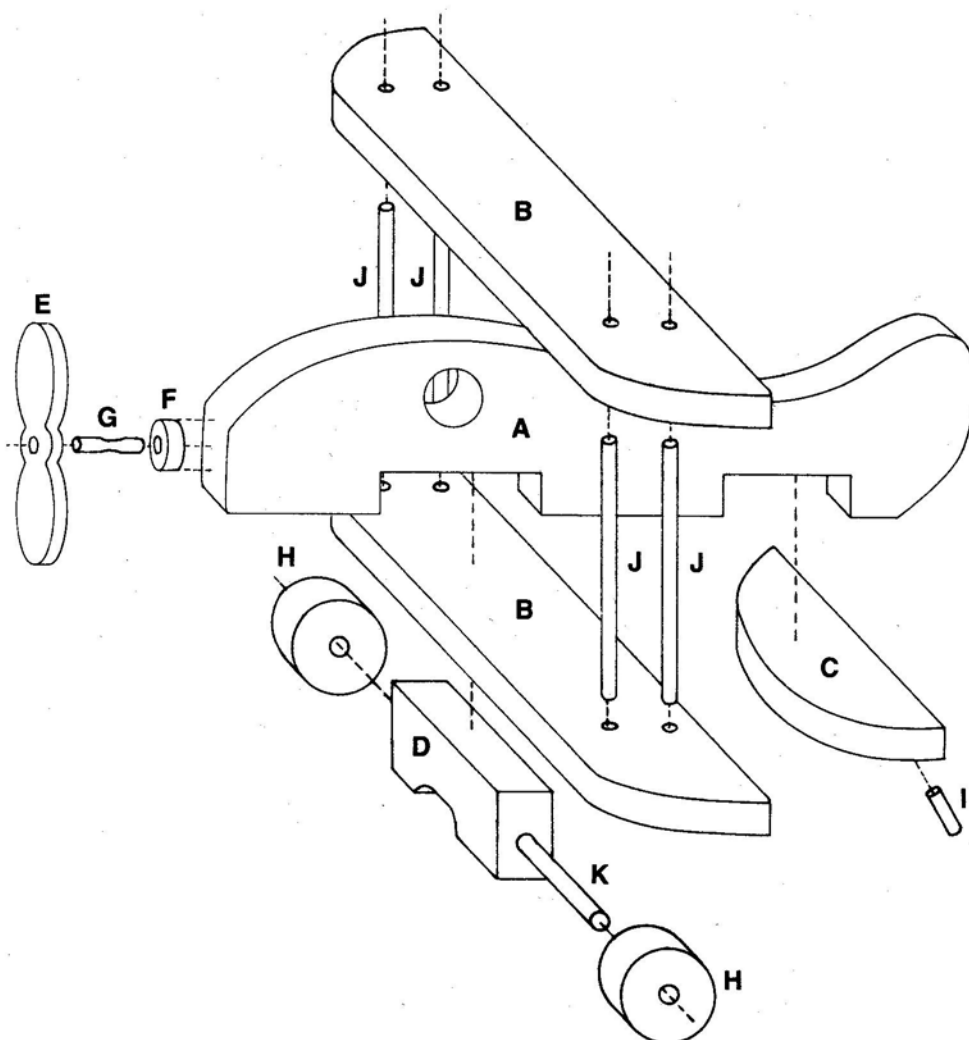
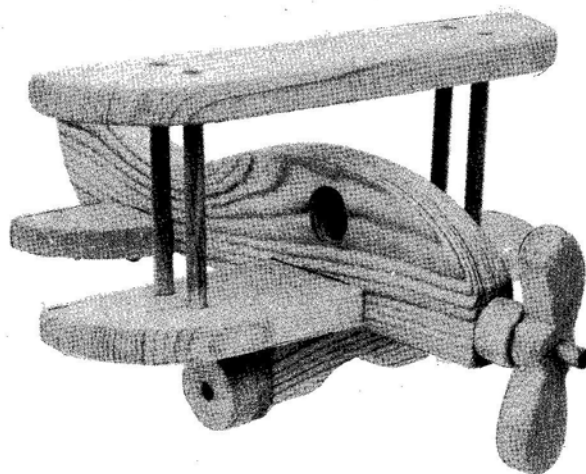


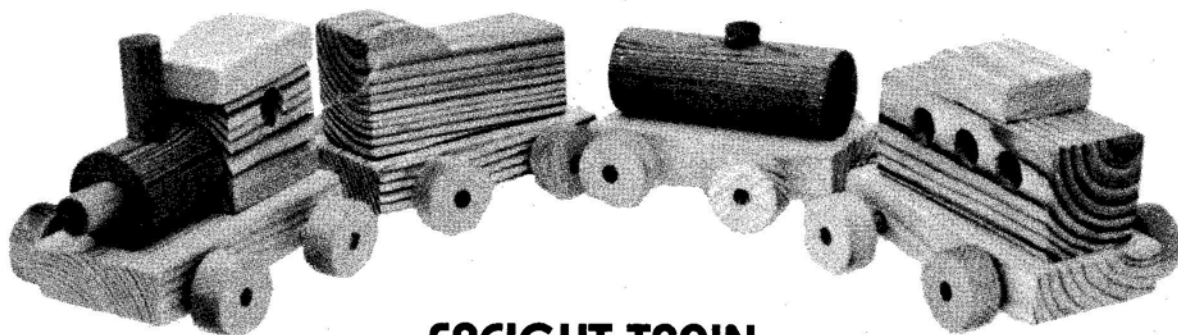
BIPLANE

(templates on Plates 2 and 3)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Body Frame	1	$9\frac{1}{2}" \times 2\frac{1}{4}" \times \frac{3}{4}"$
(B) Wings	2	$8\frac{1}{2}" \times 2" \times \frac{1}{2}"$
(C) Tail	1	$4\frac{1}{2}" \times 1\frac{1}{2}" \times \frac{1}{2}"$
(D) Wheel Stand	1	$3" \times 1" \times \frac{3}{4}"$
(E) Propeller	1	$3" \times \frac{5}{8}" \times \frac{1}{2}"$
(F) Motor	1	$1" \times \frac{1}{2}"$
(G) Prop Support	1	$1\frac{1}{2}" \times \frac{1}{4}"$ dowel
(H) Wheels	2	$1" \times \frac{3}{4}"$
(I) Tail Support	1	$1" \times \frac{1}{4}"$ dowel
(J) Wing Struts	4	$3\frac{1}{2}" \times \frac{1}{4}"$ dowels
(K) Axle	1	$5" \times \frac{1}{4}"$ dowel





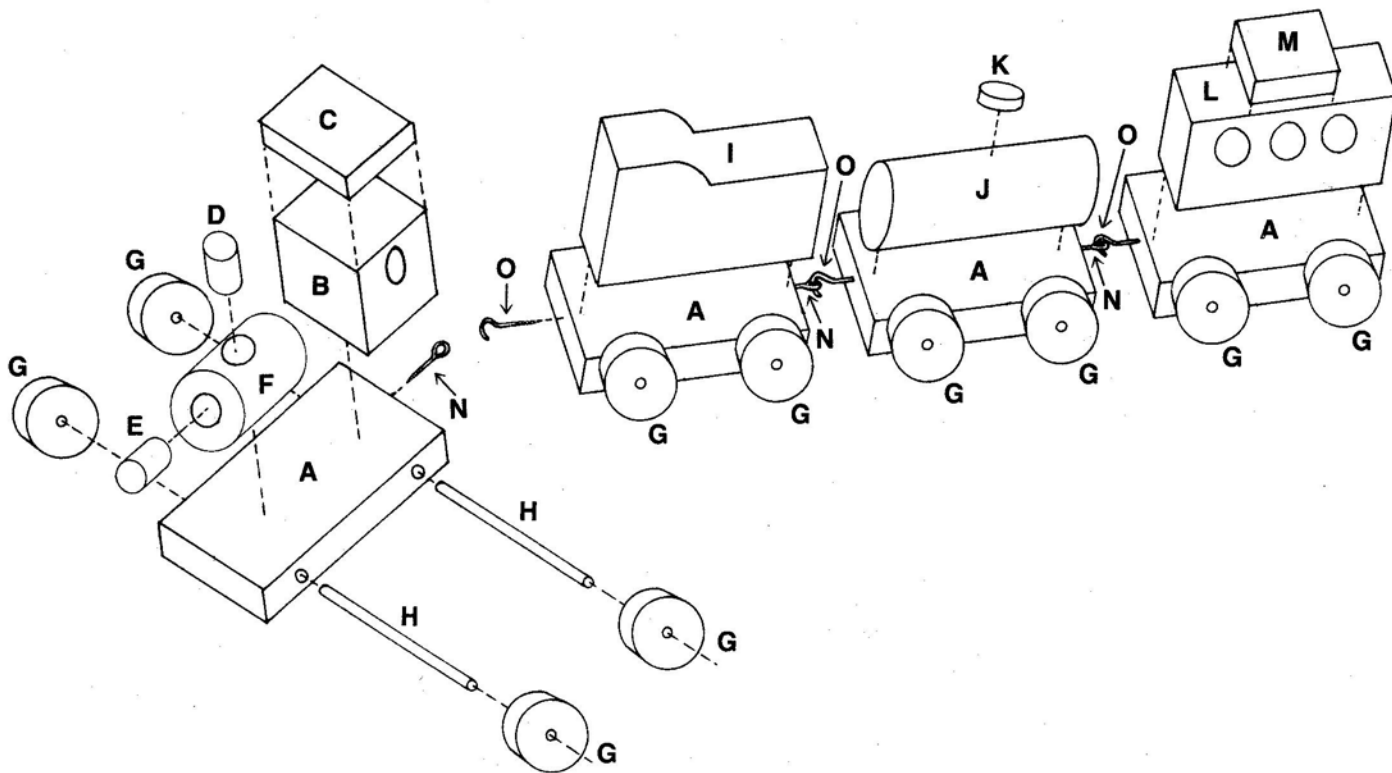
FREIGHT TRAIN

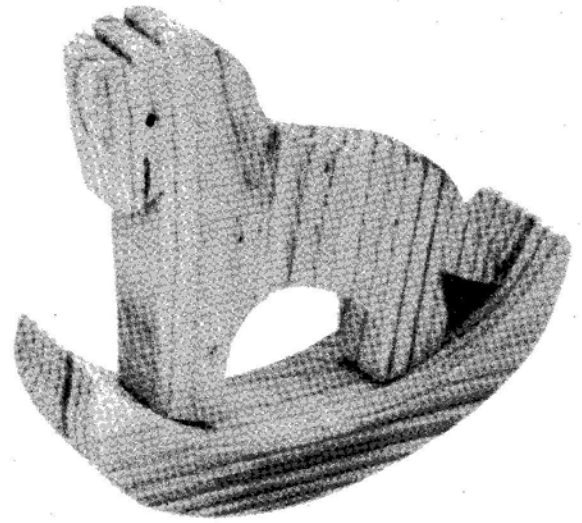
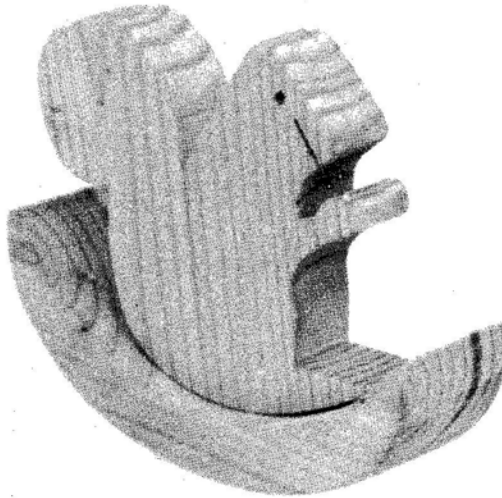
(templates on Plates 3 and 4)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE	DESCRIPTION	NO. OF PIECES	SIZE
(A) Train Cars	4	4" × 2" × ¾"	(I) Coal Car	1	3½" × 2" × 1½"
(B) Engine Cab	1	2" × 1½" × 1½"	(J) Oil Tank	1	3½" × 1¼" dowel
(C) Cab Roof	1	2" × 1½" × ½"	(K) Tank Cap	1	¼" × ½" dowel
(D) Smokestack	1	2" × ½" dowel	(L) Caboose	1	3½" × 1½" × 1½"
(E) Engine Light	1	1" × ½" dowel	(M) Caboose Cupola	1	1½" × 1½" × ½"
(F) Engine	1	1½" × 1¼" dowel	(N) Screw Eyes	3	#216½
(G) Wheels	16	1" × ½"	(O) Screw Hooks	3	1¼"
(H) Axles	8	3½" × ¼" dowels			

Note: The engine cab (B), coal car (I), and caboose (L) may be cut from a suitable length of two-by-four.





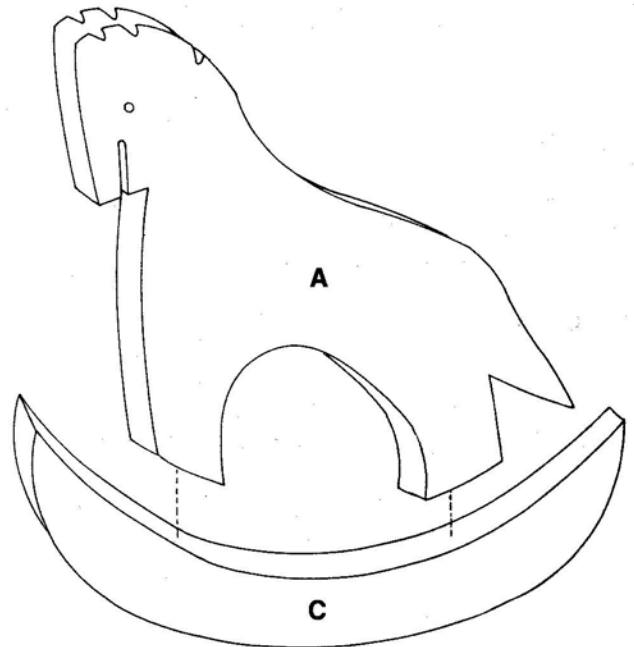
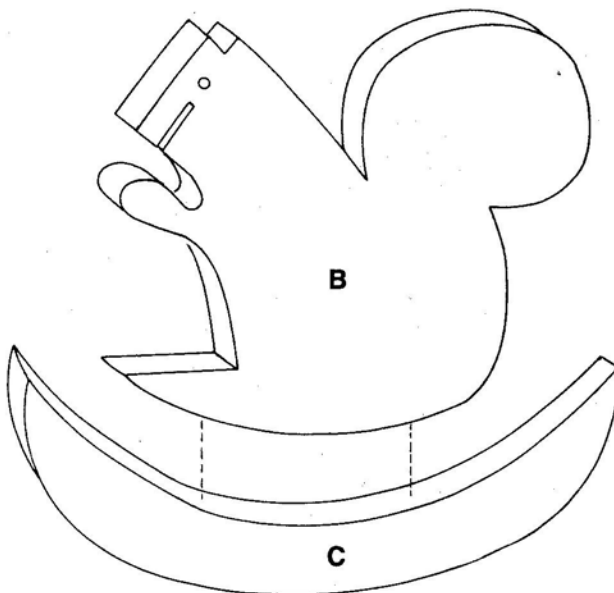
ROCKING HORSE AND SQUIRREL

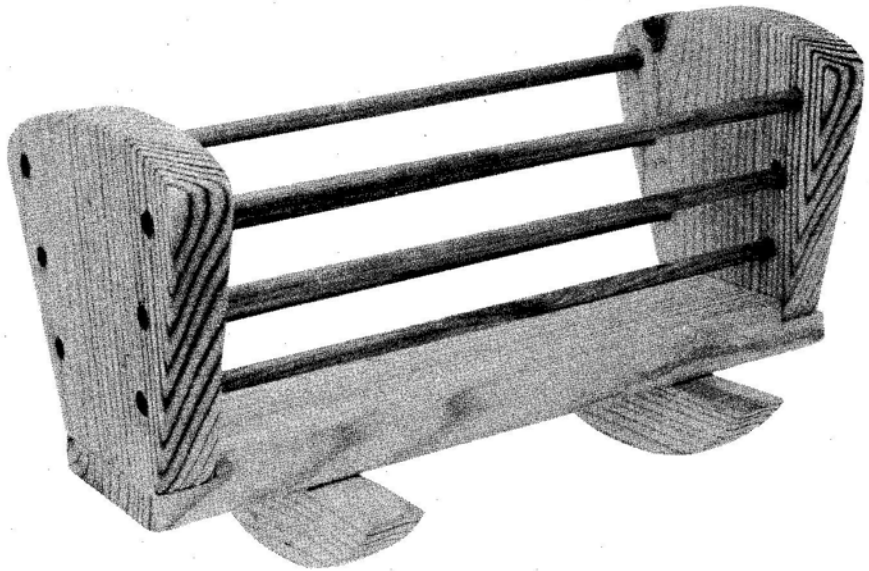
(templates on Plate 5)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Horse	1	5" × 5½" × ¾"
(B) Squirrel	1	4½" × 4" × ¾"
(C) Rockers	2	5½" × 2" × 1½"

Note: The rockers may be cut from a suitable length of two-by-four.



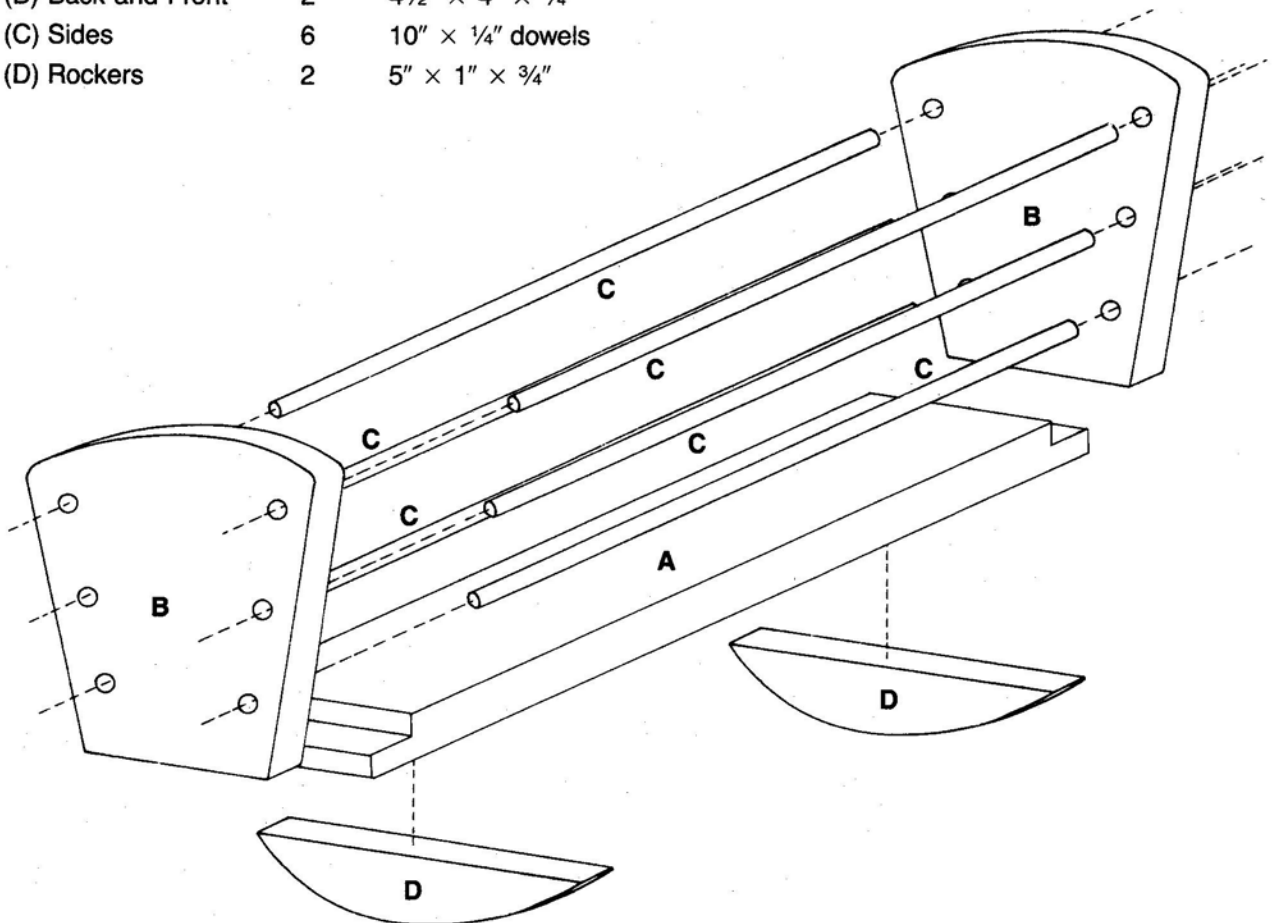


DOLL CRADLE

(templates on Plates 6 and 7)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Base	1	10" $\times$ 2½" $\times$ ¾"
(B) Back and Front	2	4½" $\times$ 4" $\times$ ¾"
(C) Sides	6	10" $\times$ ¼" dowels
(D) Rockers	2	5" $\times$ 1" $\times$ ¾"



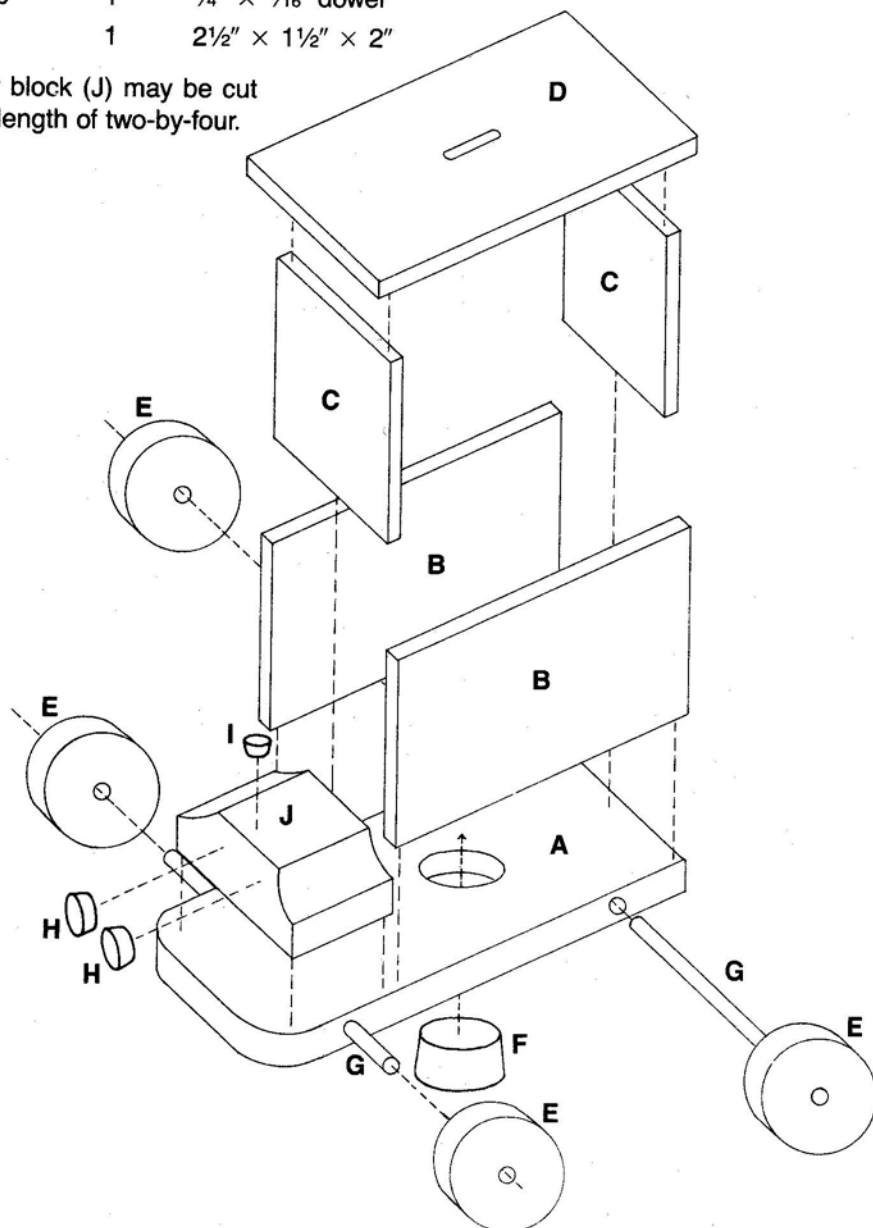
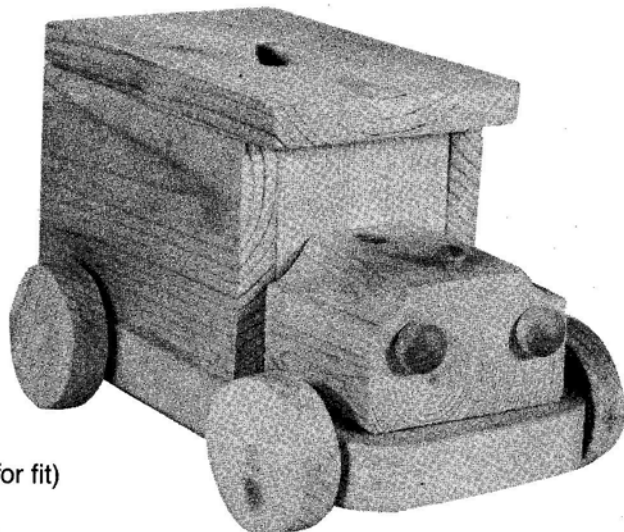
TRUCK BANK

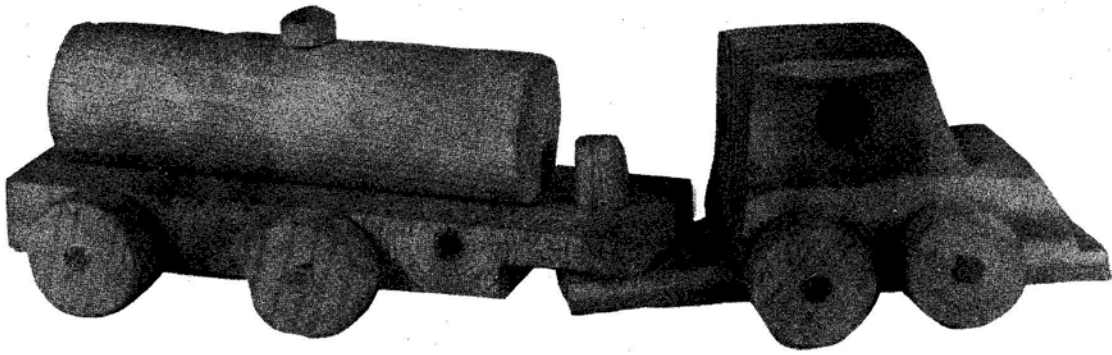
(templates on Plates 7 and 8)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Body Frame	1	7" × 3" × 3/4"
(B) Sides	2	4 1/2" × 2 1/2" × 1/2"
(C) Front and Back	2	2" × 2 1/2" × 1/2"
(D) Top	1	5" × 3" × 1/2"
(E) Wheels	4	1 3/4" × 1/2"
(F) Bank Bottom	1	1 1/4" × 1" dowel (taper for fit)
(G) Axles	2	4 1/2" × 1/4" dowel
(H) Headlights	2	1/2" × 1/4" dowels
(I) Radiator Cap	1	1/4" × 5/16" dowel
(J) Motor Block	1	2 1/2" × 1 1/2" × 2"

Note: The motor block (J) may be cut from a suitable length of two-by-four.





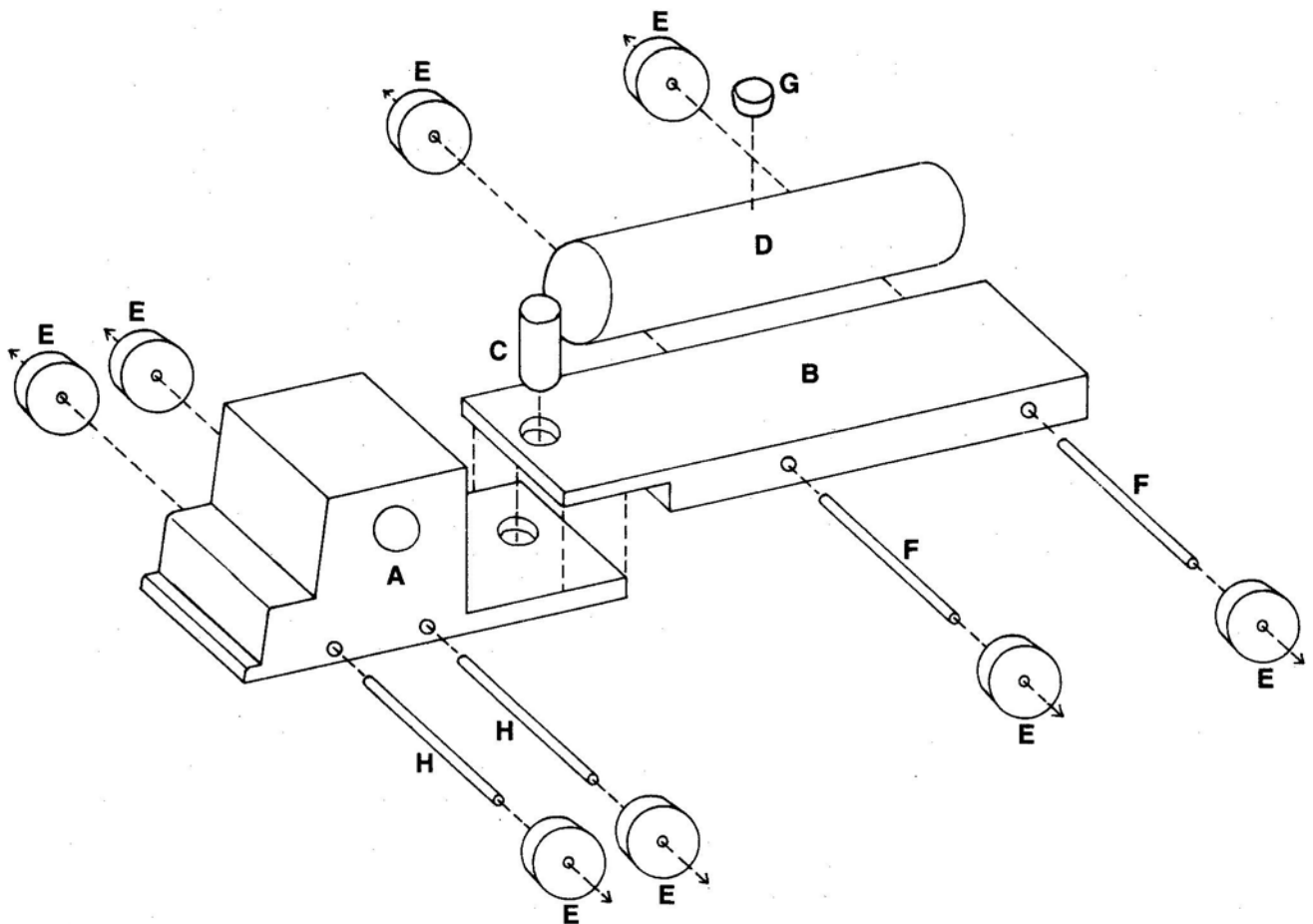
OIL TRUCK

(templates on Plate 9)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE	DESCRIPTION	NO. OF PIECES	SIZE
(A) Truck Cab	1	5" × 2" × 1½"	(E) Wheels	8	1" × ½"
(B) Trailer	1	6" × 2" × ¾"	(F) Axles for Trailer	2	3½" × ¼" dowels
(C) Trailer Lock	1	1½" × ½" dowel	(G) Tank Cap	1	¾" × ½" dowel
(D) Tank	1	4" × 1¼" dowel	(H) Axles for Cab	2	3" × ¼" dowels

Note: The truck cab (A) may be cut from a suitable length of two-by-four.

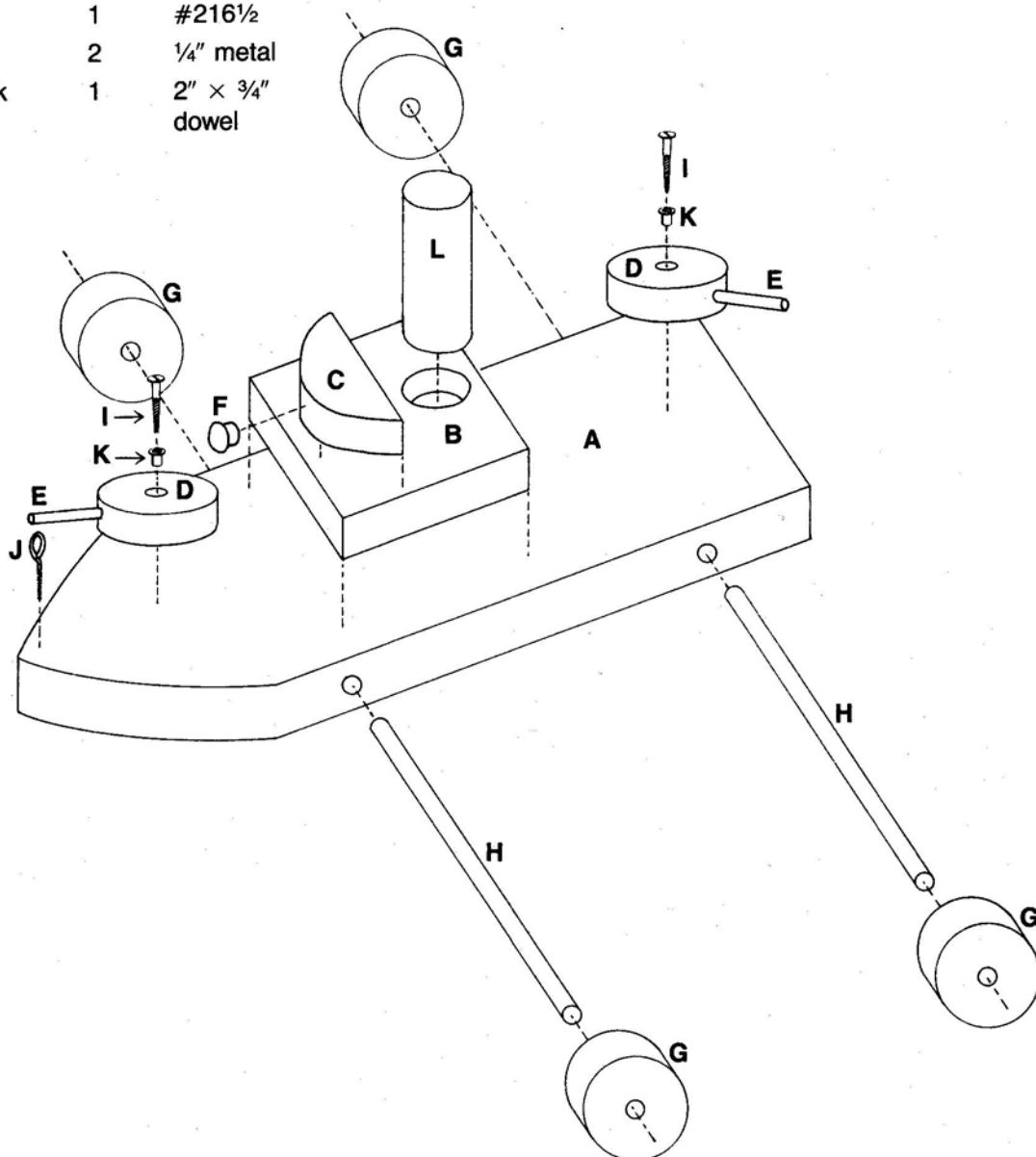
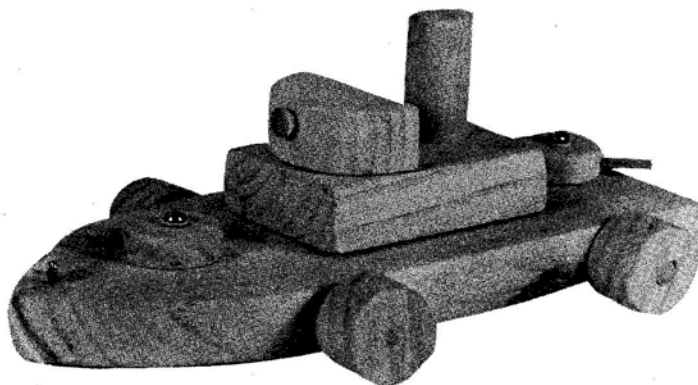


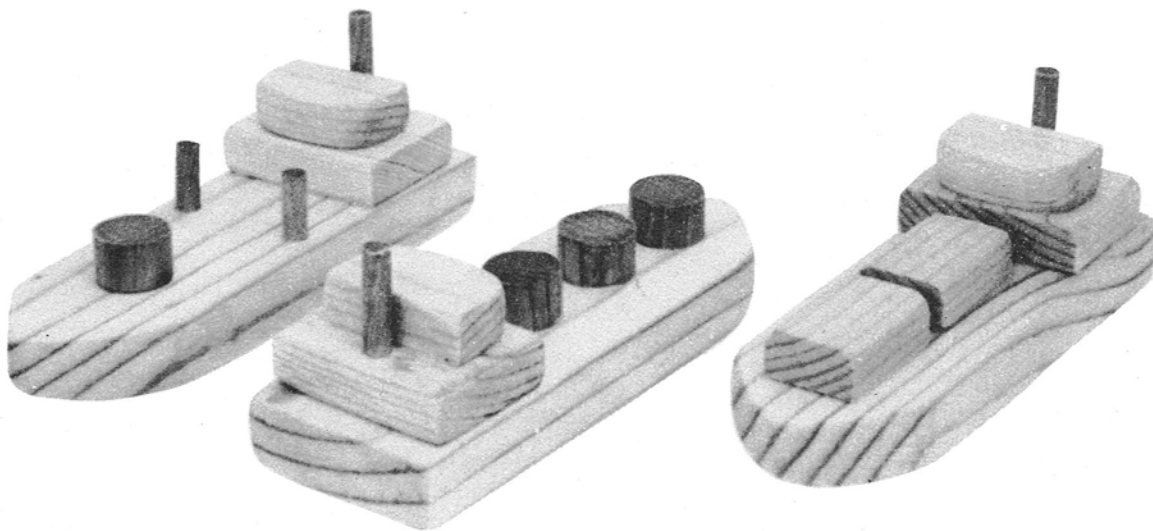
DESTROYER

(templates on Plate 10)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Ship's Hull	1	9" × 3½" × ¾"
(B) Bridge	1	3" × 2½" × ¾"
(C) Bridge Cabin	1	2" × 1" × ¾"
(D) Gun Turrets	2	1" × 1½"
(E) Turret Guns	2	1" × ⅛" dowels
(F) Spotlight	1	¼" × ¼" dowel
(G) Wheels	4	1" × ¾"
(H) Axles	2	5½" × ¼" dowels
(I) Screws	2	1"-long #6 wood screws
(J) Screw Eye	1	#216½
(K) Eyelets	2	¼" metal
(L) Smokestack	1	2" × ¾" dowel



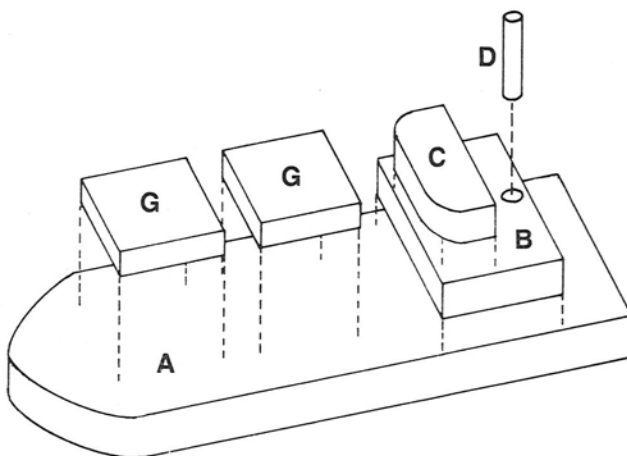
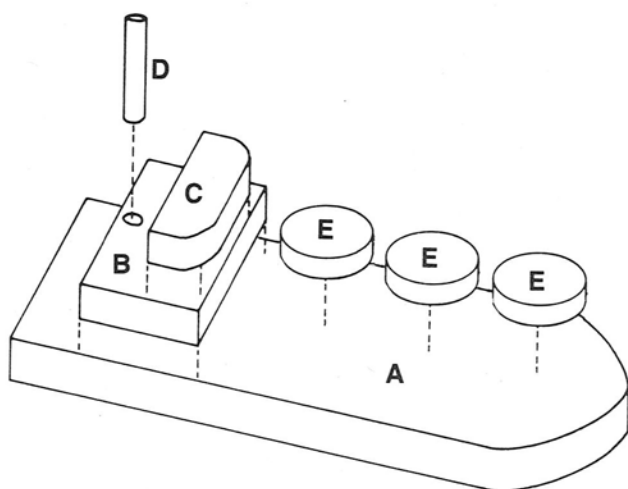
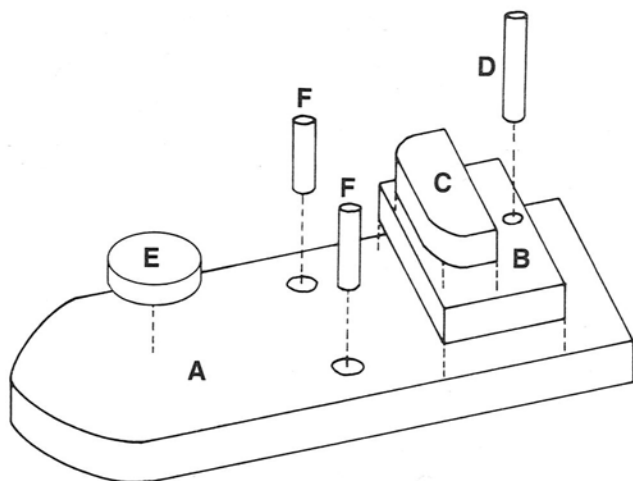


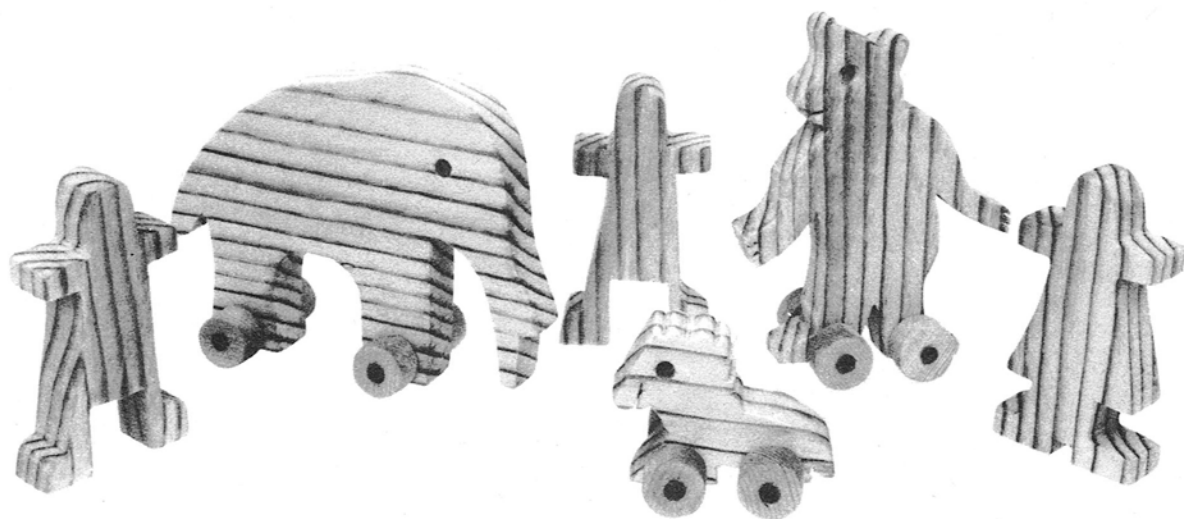
CARGO SHIPS

(templates on Plate 11)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Ships' Hulls	3	6" × 2" × 3/4"
(B) Bridges	3	2" × 1 1/2" × 1/2"
(C) Bridge Cabins	3	1 1/2" × 1" × 1/2"
(D) Smoke Stacks	3	1 1/2" × 1/4" dowels
(E) Cargo Hatches	4	1/2" × 3/4" dowels
(F) Winches	2	1" × 1/4" dowels
(G) Containers	2	1 1/2" × 1" × 1 1/2"



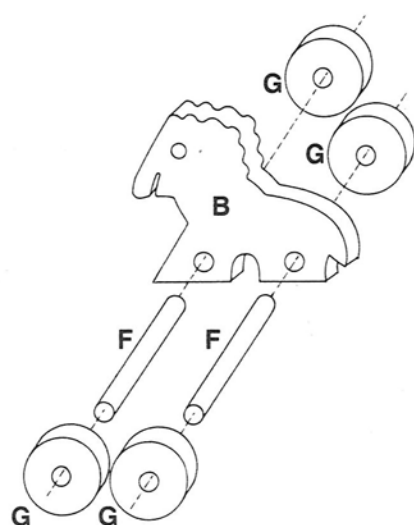
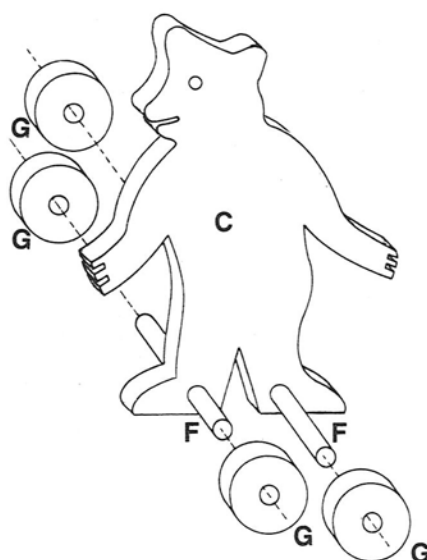
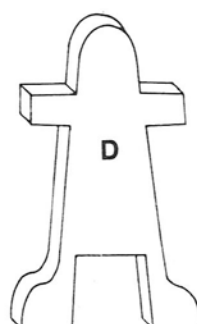
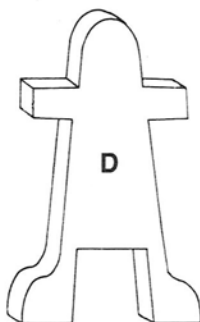
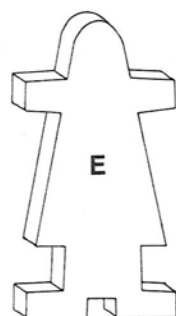
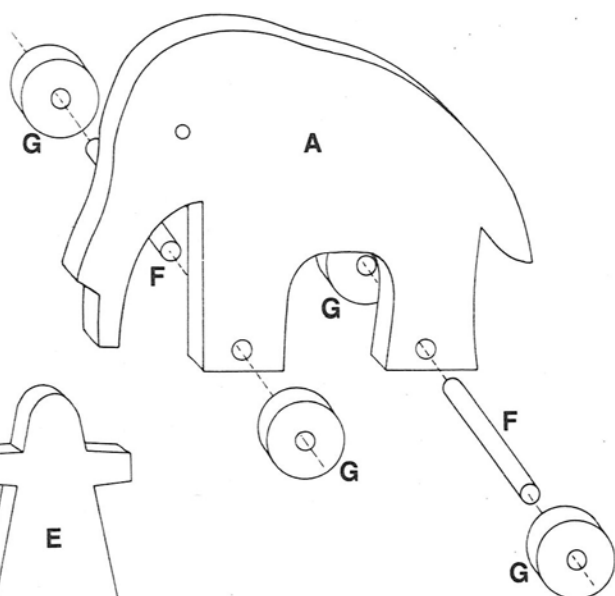


CIRCUS ANIMALS AND ACROBATS

(templates on Plates 12 and 13)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Elephant	1	6" × 4½" × ¾"
(B) Lion	1	3" × 2¼" × ¾"
(C) Bear	1	5" × 4" × ¾"
(D) Acrobats (Male)	2	4" × 2½" × ¾"
(E) Acrobat (Female)	1	4" × 2" × ¾"
(F) Axles	6	2" × ¼" dowels
(G) Wheels	12	1" × ½"



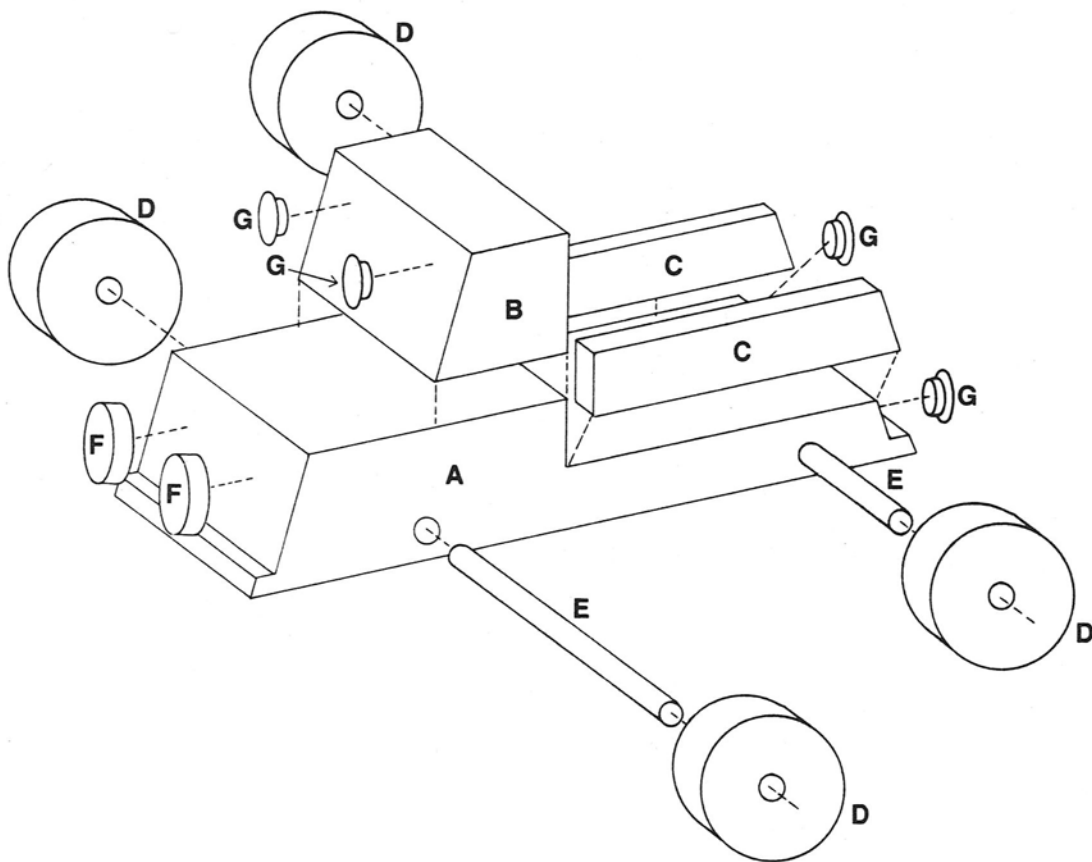
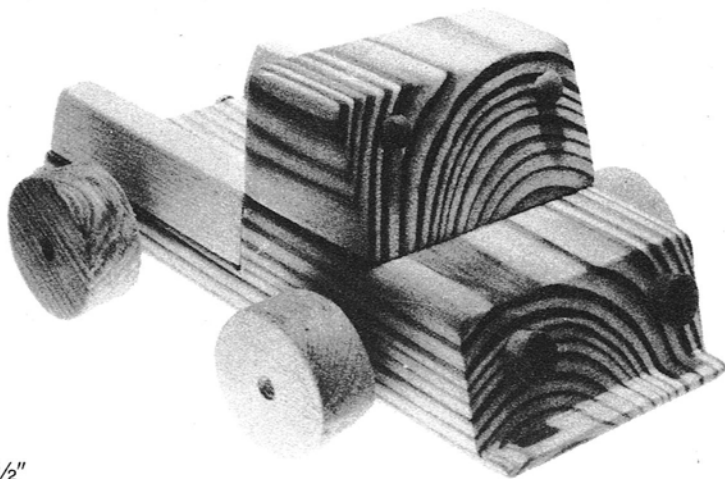
WORK TRUCK

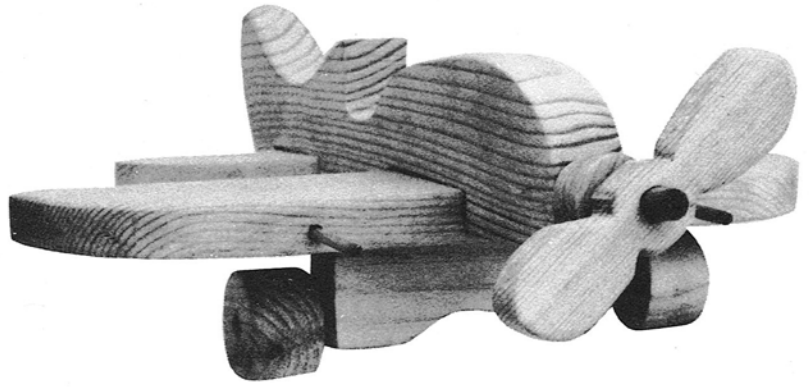
(templates on Plate 14)

LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE
(A) Truck Frame	1	8" $\times$ 3½" $\times$ 1½"
(B) Cab	1	3½" $\times$ 2" $\times$ 1½"
(C) Sides	2	3½" $\times$ 1" $\times$ ½"
(D) Wheels	4	1¾" $\times$ ¾"
(E) Axles	2	5½" $\times$ ¼" dowels
(F) Headlights	2	¼" $\times$ ½" dowels
(G) Lights for Cab and Tail	4	¼" $\times$ ¼" dowels

Note: The truck frame (A) and cab (B) may be cut from a suitable length of two-by-four.





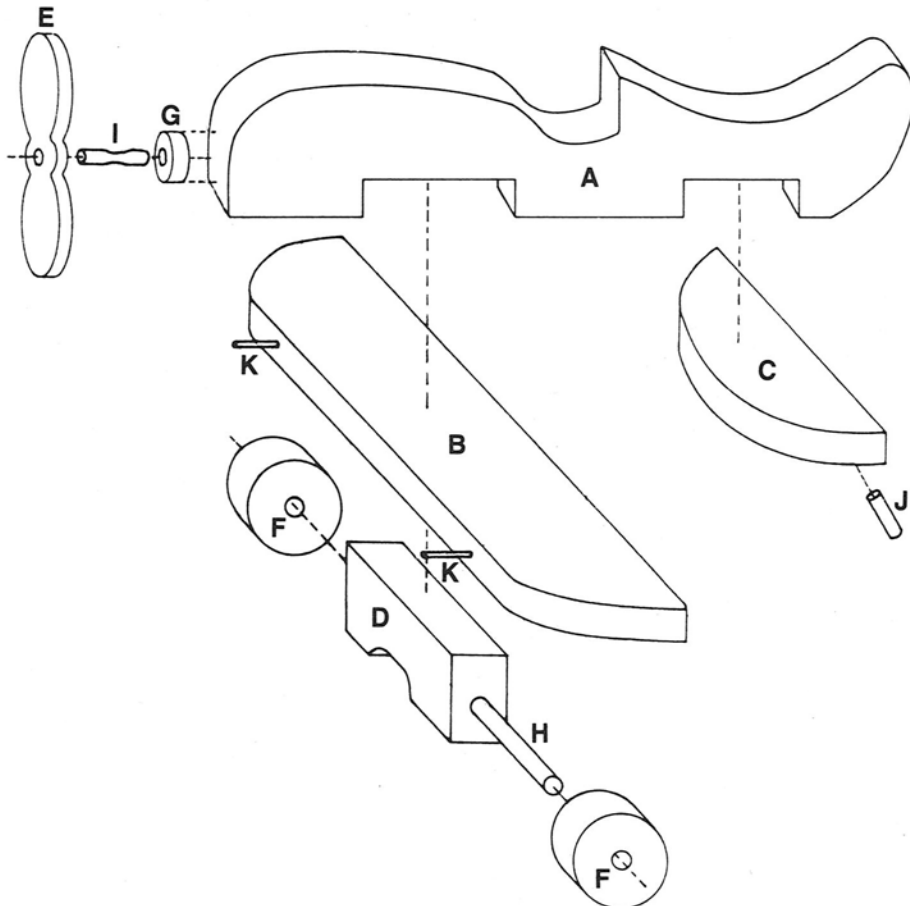
FIGHTER PLANE

(templates on Plate 15)

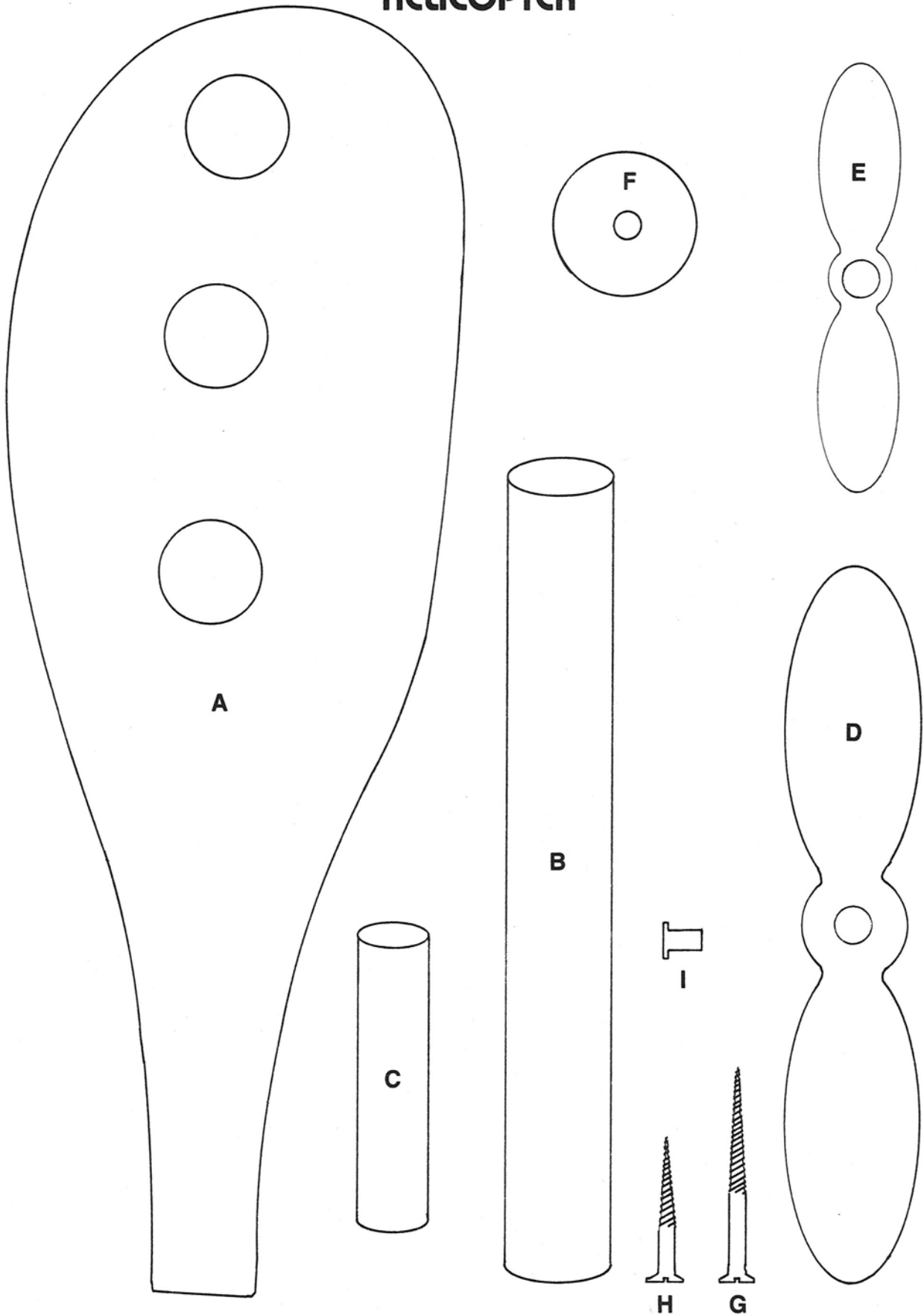
LIST OF MATERIALS

DESCRIPTION	NO. OF PIECES	SIZE	DESCRIPTION	NO. OF PIECES	SIZE
(A) Body Frame	1	9 1/4" x 2 1/4" x 3/4"	(G) Motor	1	3/4" x 1/2"
(B) Wing	1	8 1/2" x 2" x 3/4"	(H) Axle	1	5" x 1/4" dowel
(C) Tail	1	4 1/2" x 1 1/2" x 3/4"	(I) Prop Support	1	1 1/2" x 1/4" dowel
(D) Wheel Stand	1	3" x 1" x 3/4"	(J) Tail Support	1	1" x 1/4" dowel
(E) Propeller	1	3" x 5/8" x 1/2"	(K) Guns	2	1 1/2" x 1/8" dowels
(F) Wheels	2	1" x 3/4"			

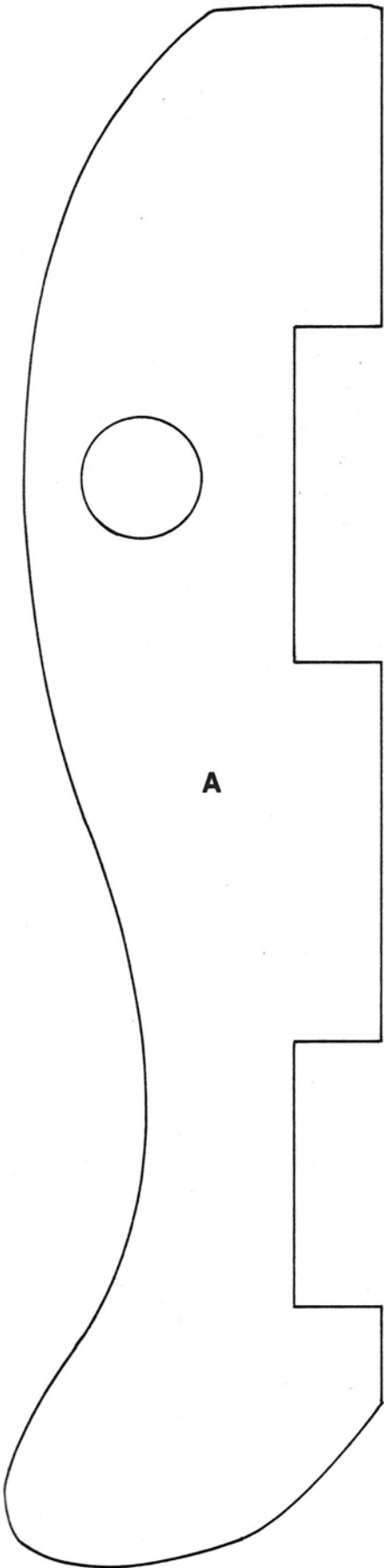
Note: The center of the prop support (I) should be sanded to allow the propeller to spin freely.



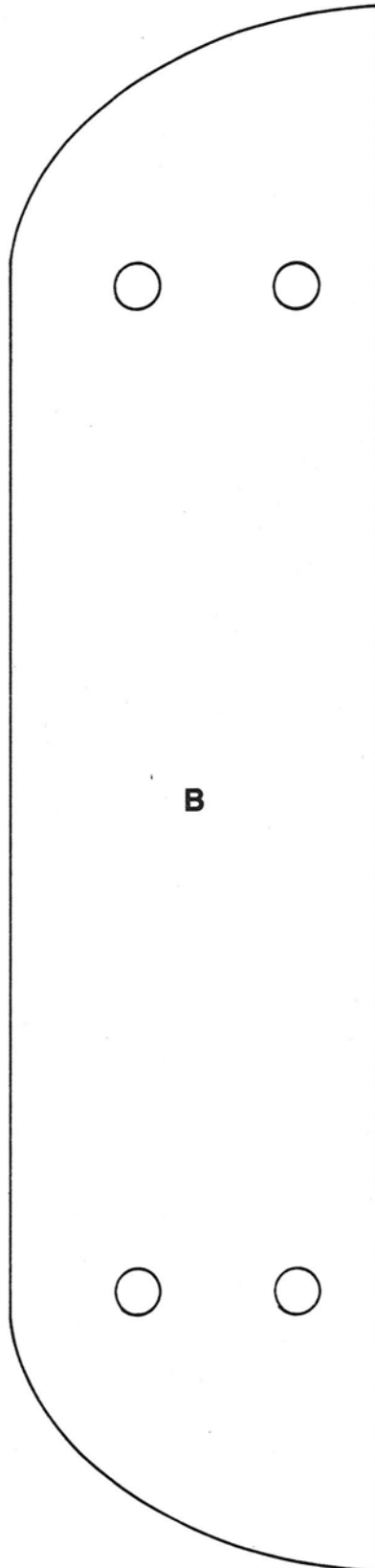
HELICOPTER



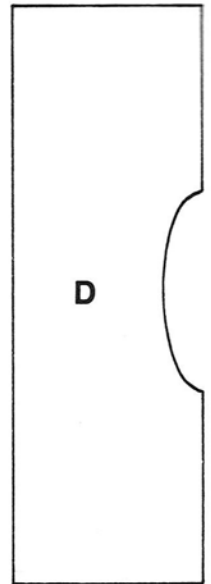
BIPLANE



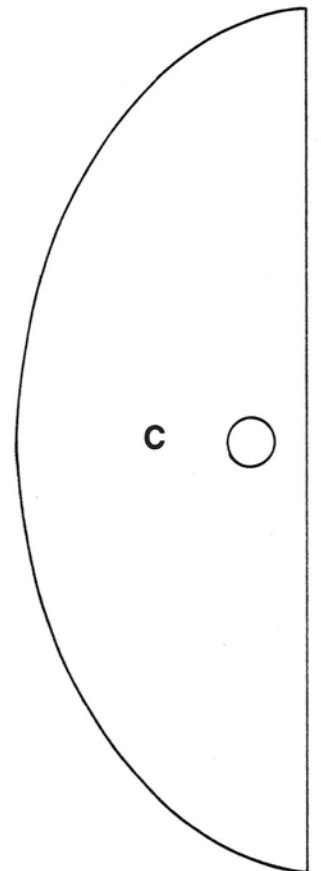
A



B

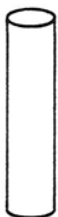
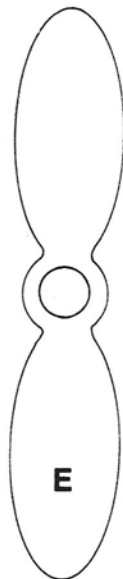
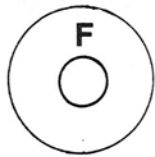
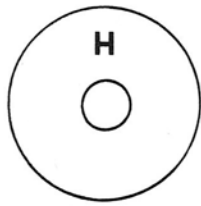


D



C

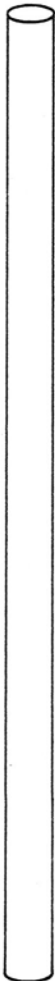
BIPLANE



I



J



K

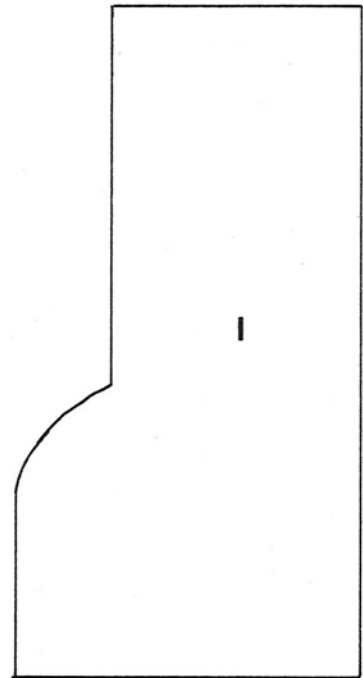


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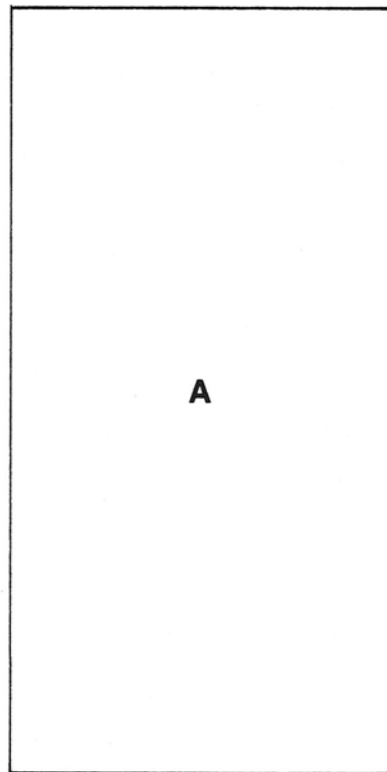
FREIGHT TRAIN



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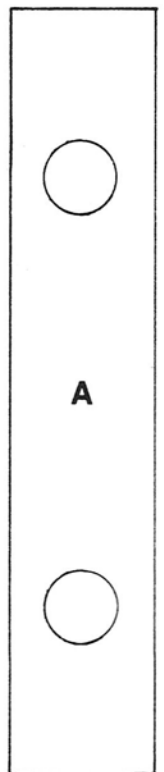


I



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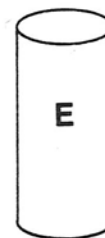
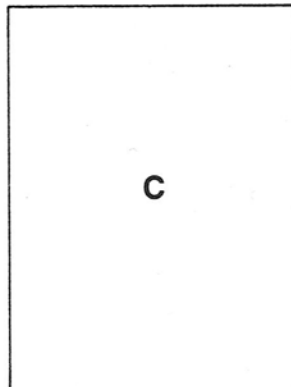
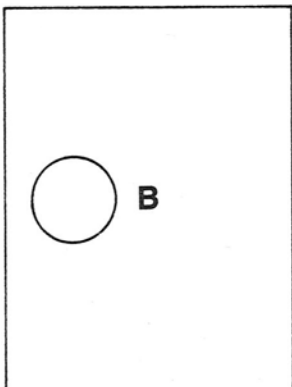
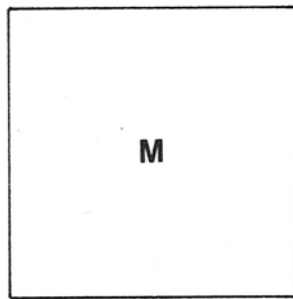
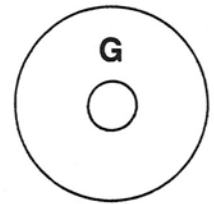
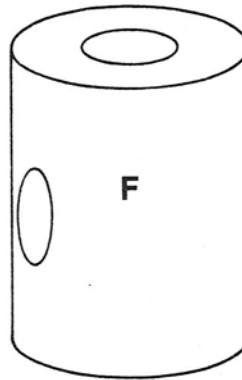
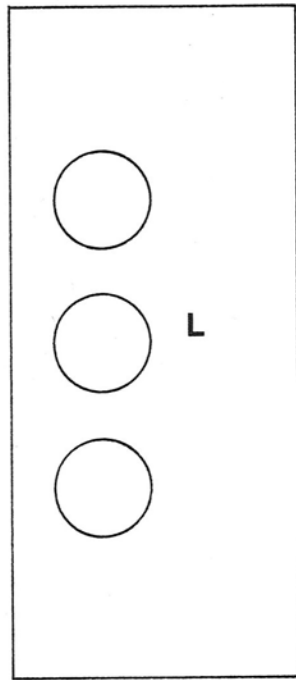
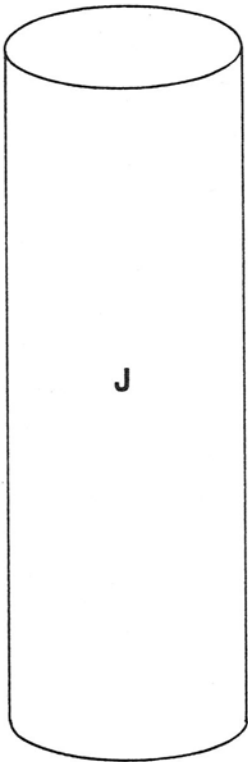
top view

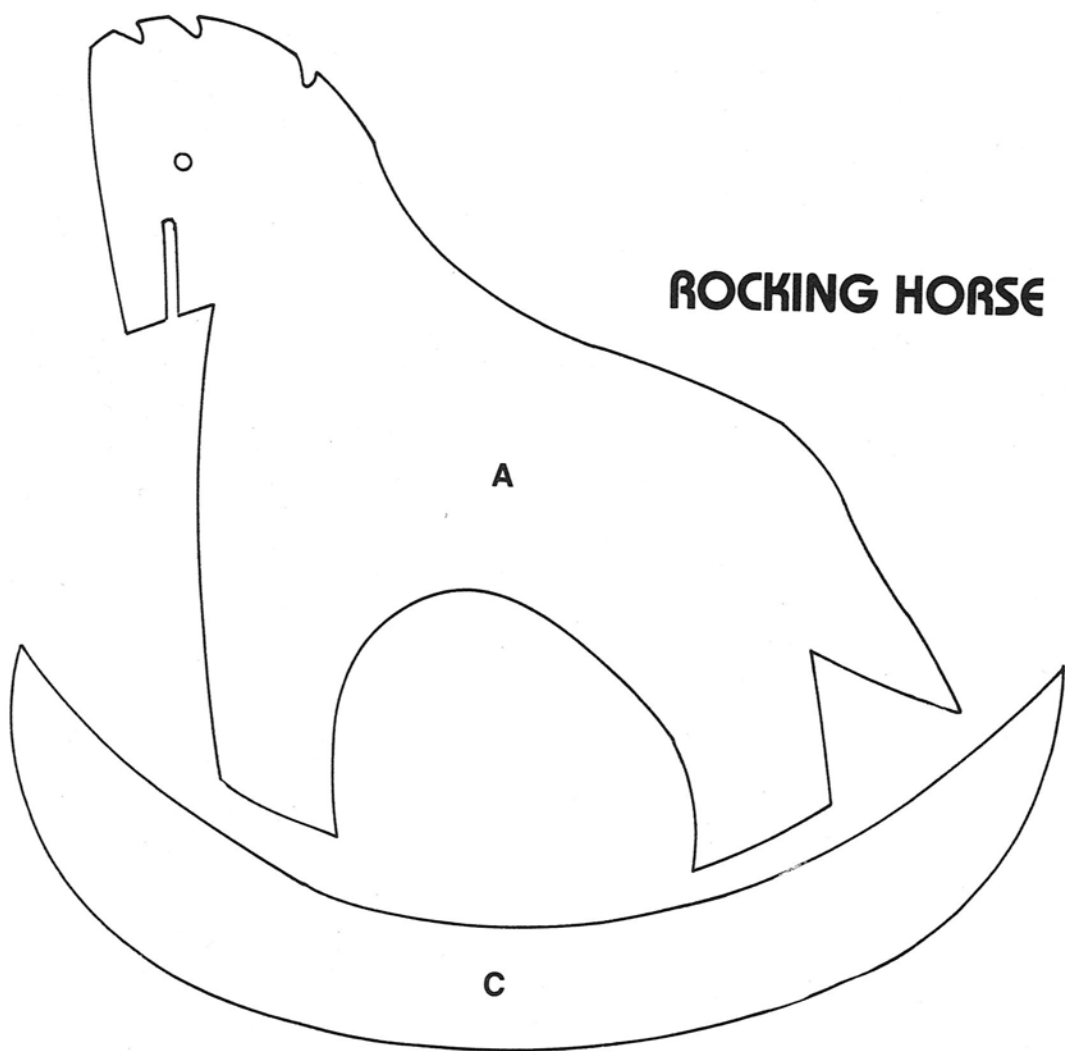


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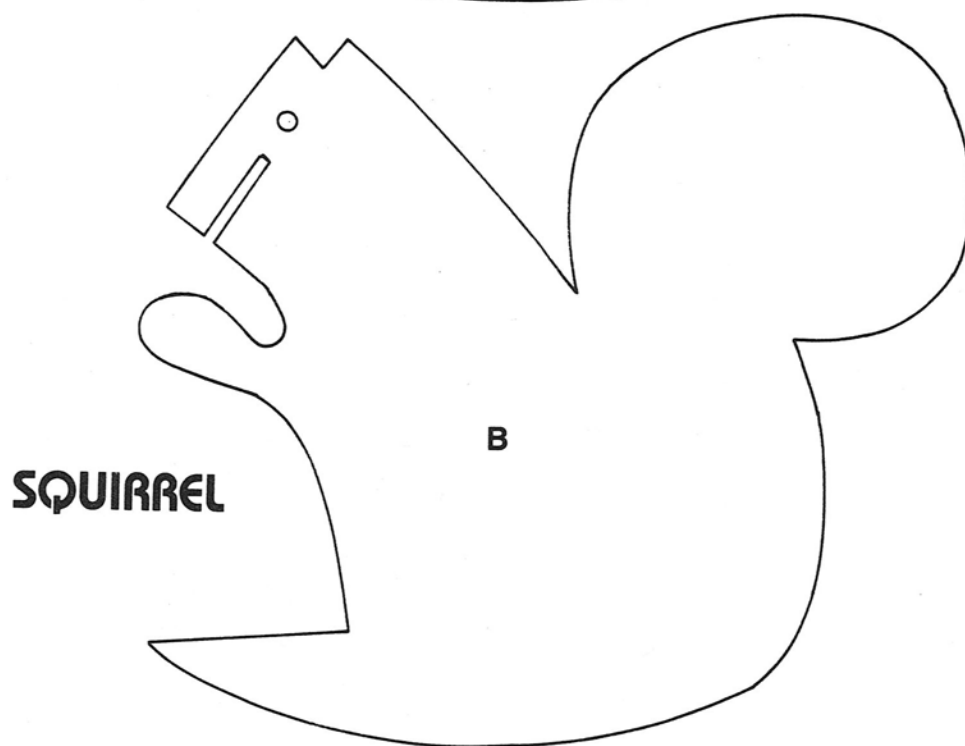
side view

FREIGHT TRAIN



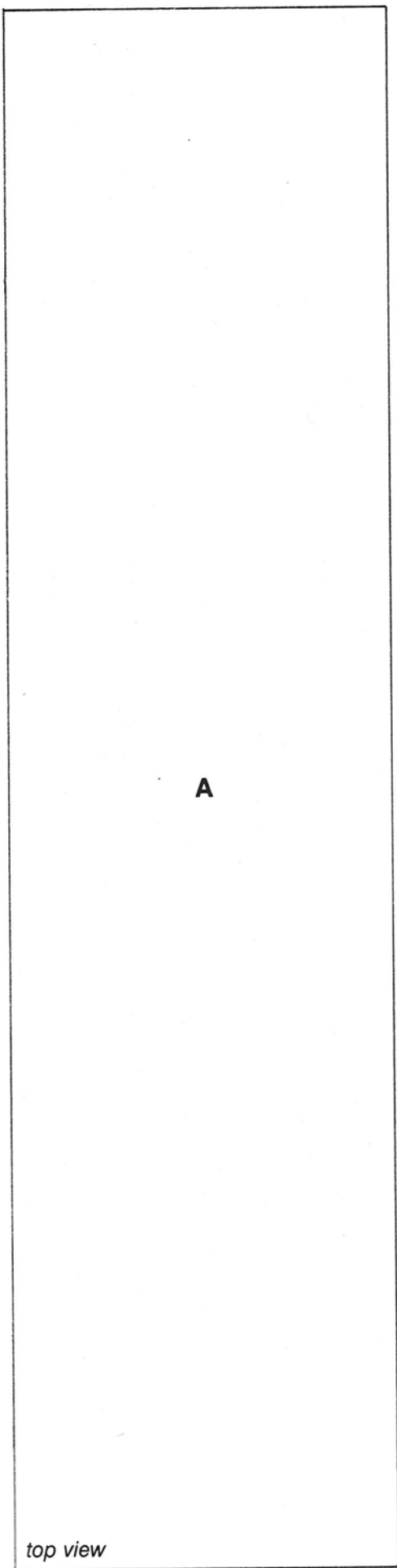


ROCKING HORSE

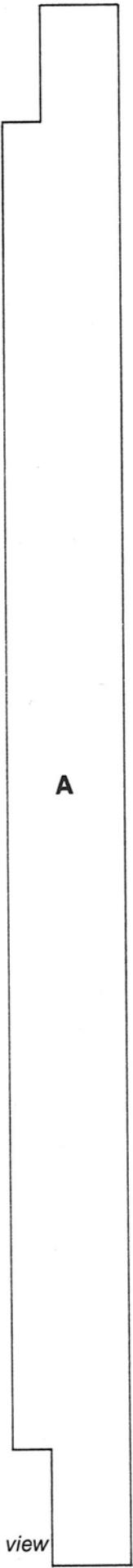


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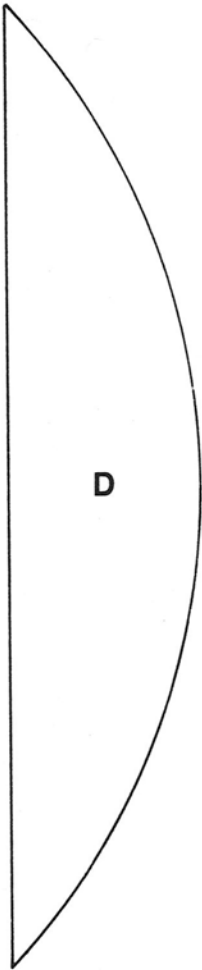
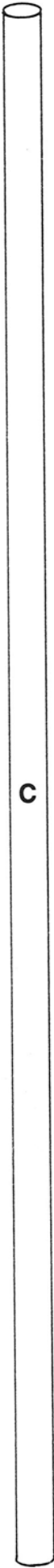
DOLL CRADLE



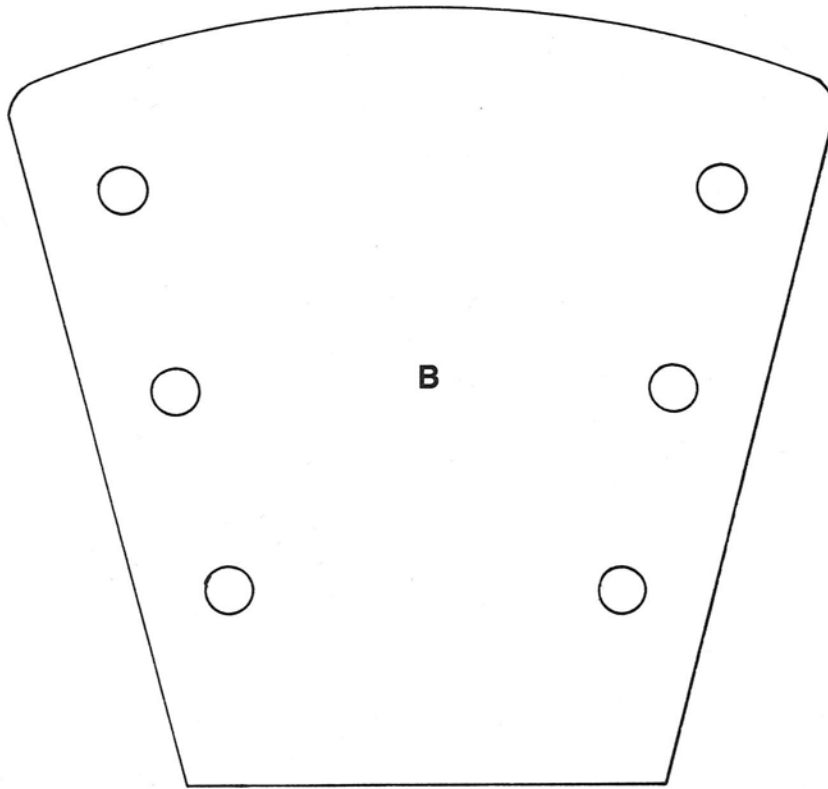
top view



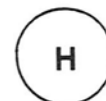
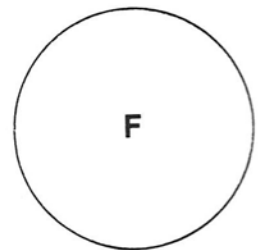
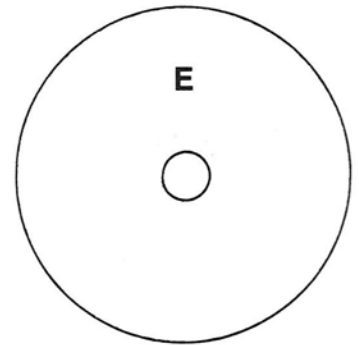
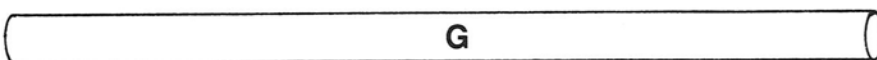
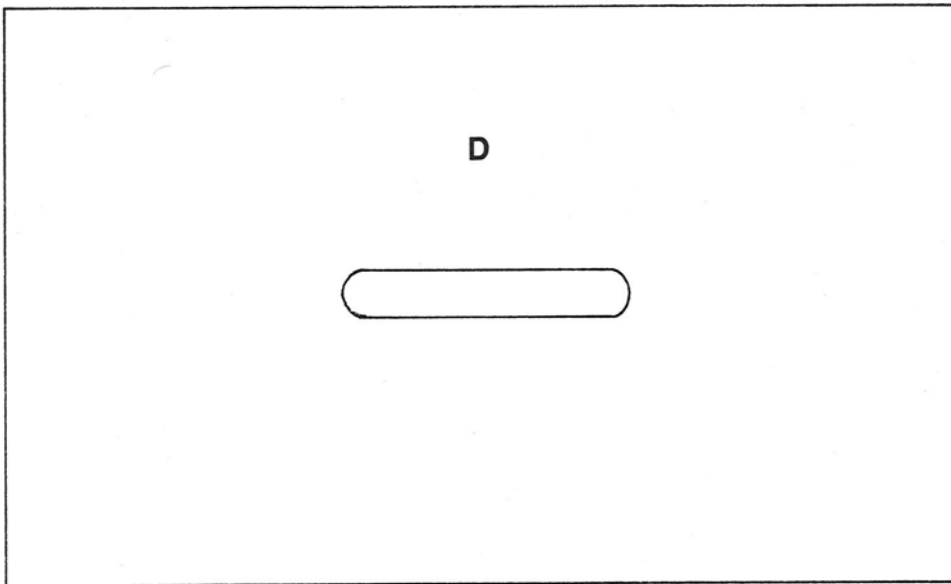
side view



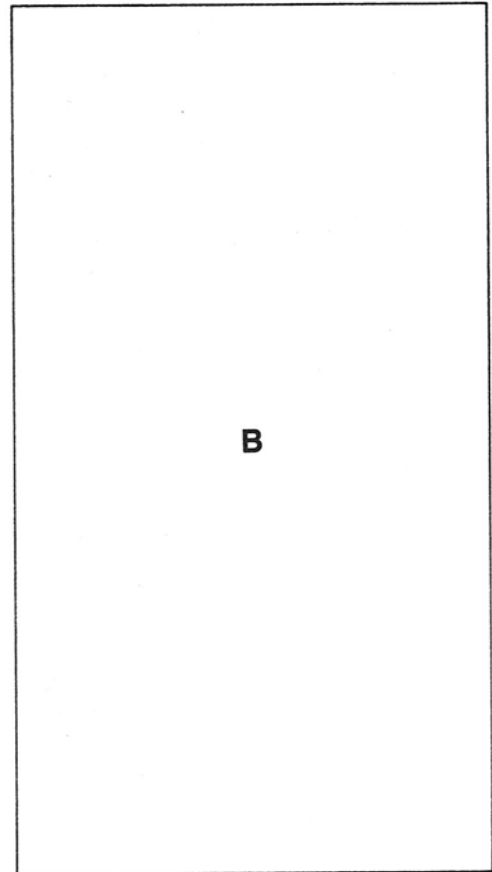
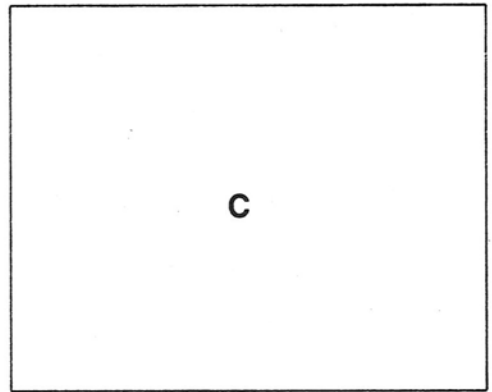
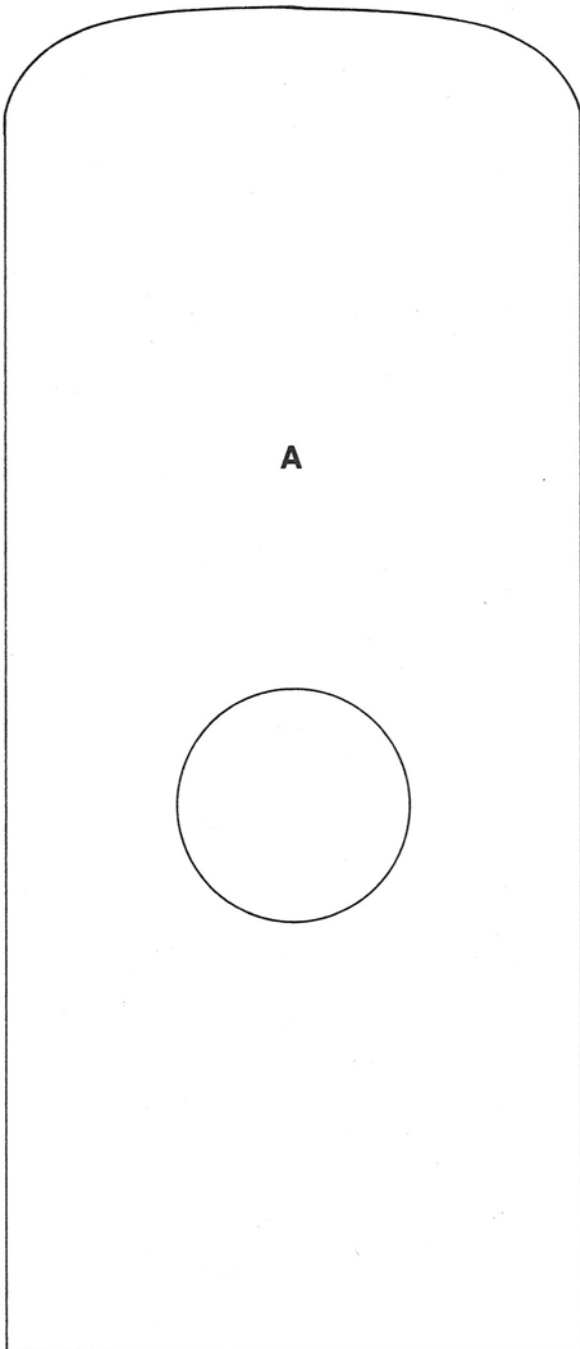
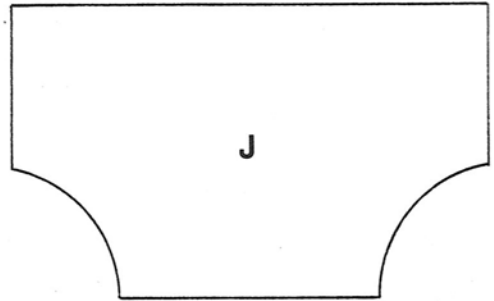
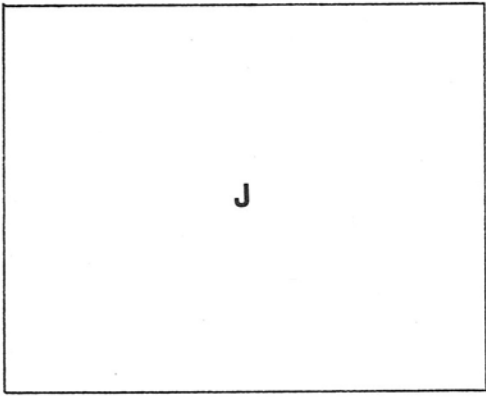
DOLL CRADLE



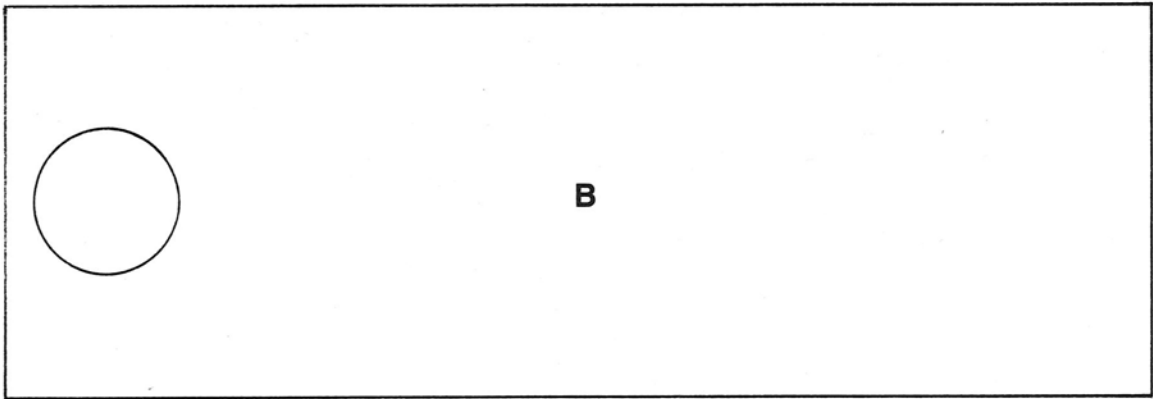
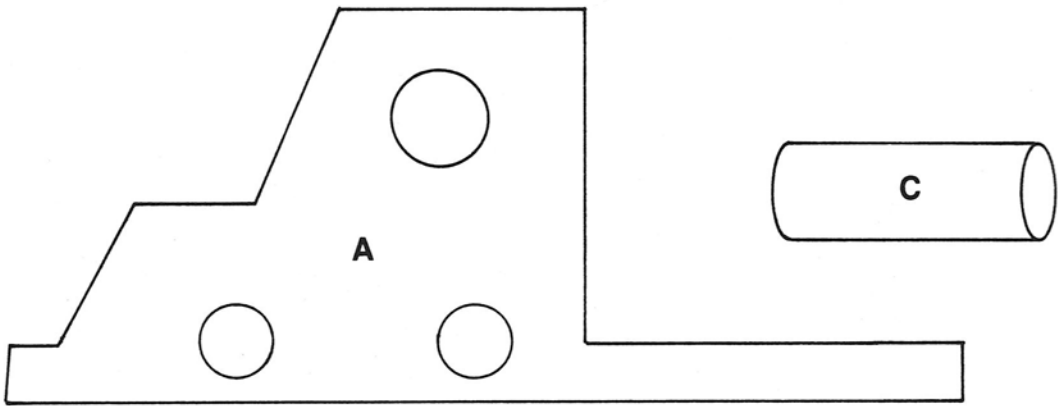
TRUCK BANK



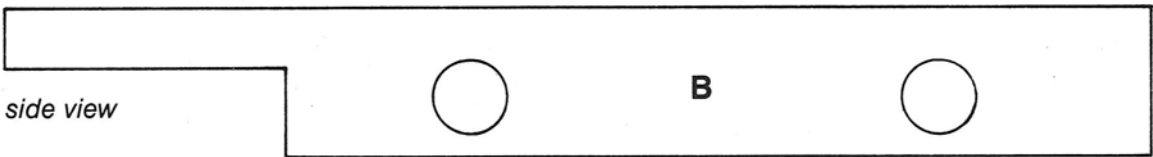
TRUCK BANK



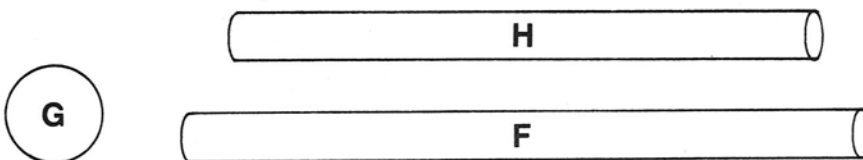
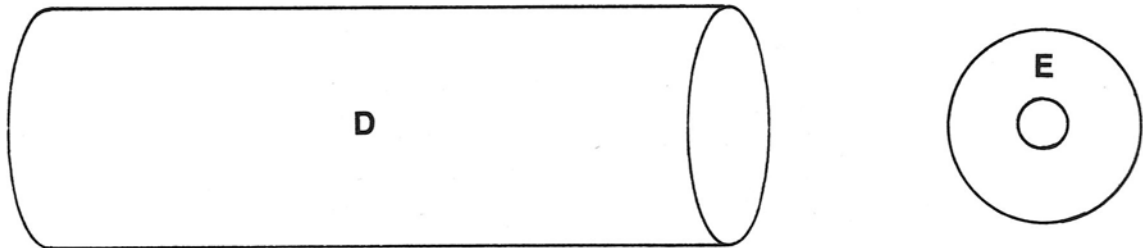
OIL TRUCK



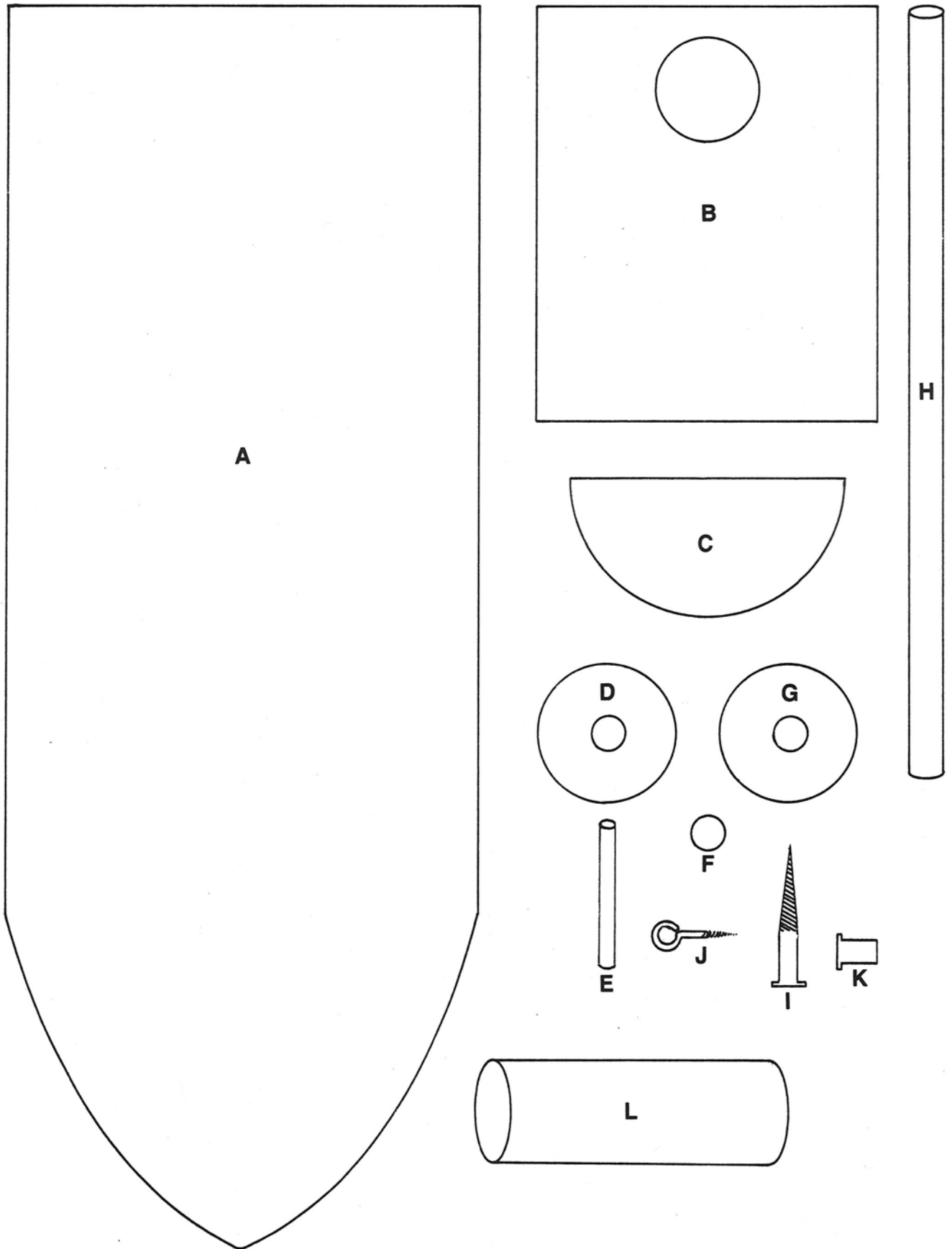
top view



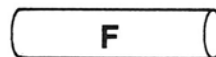
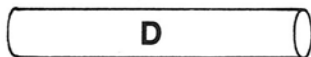
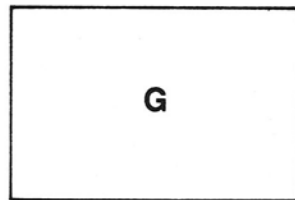
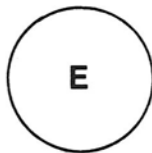
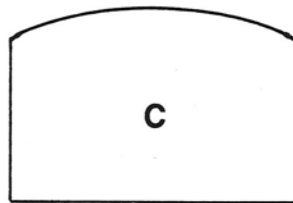
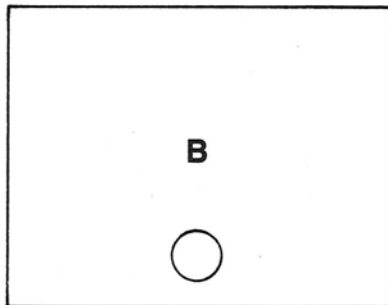
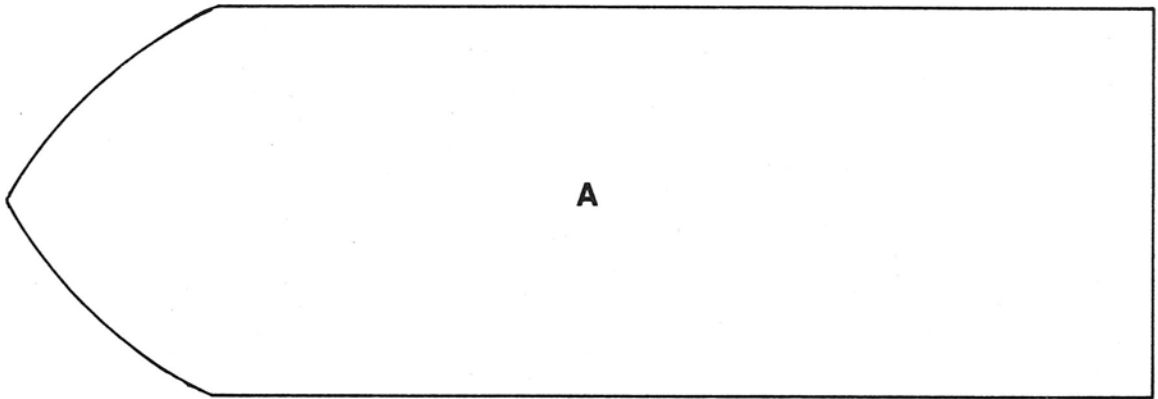
side view



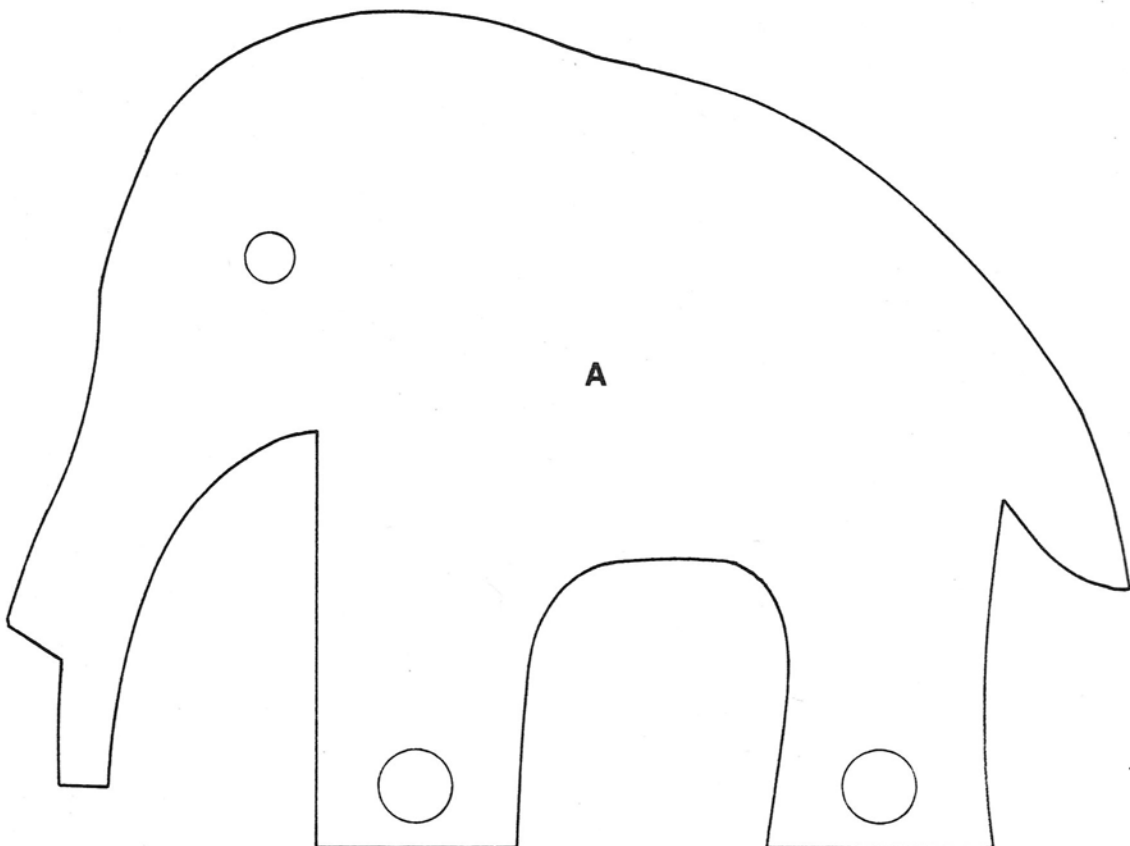
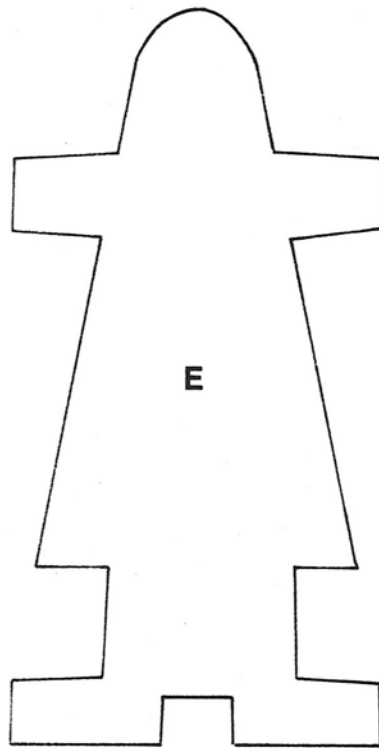
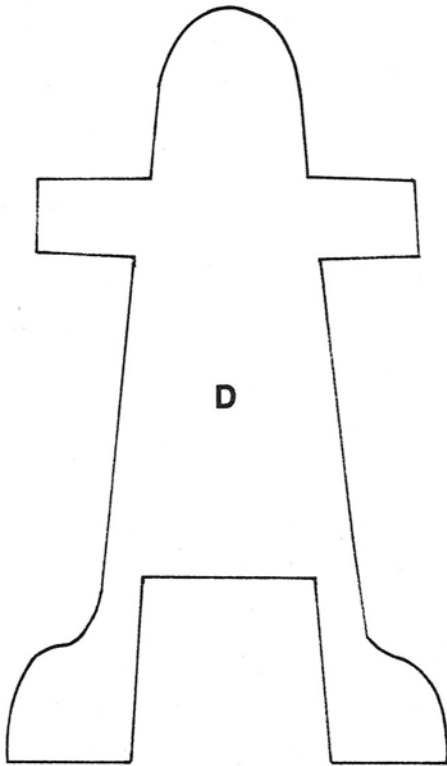
DESTROYER



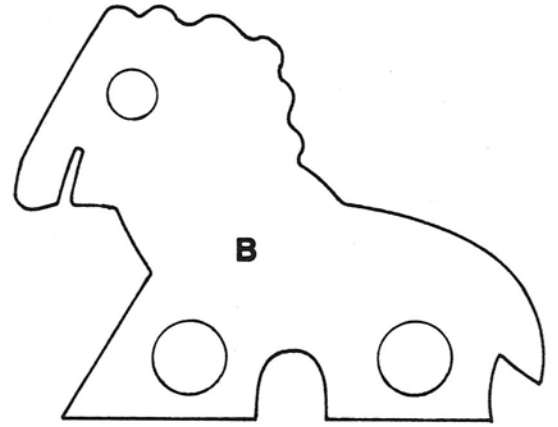
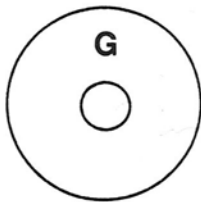
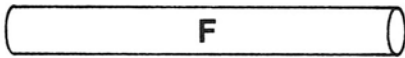
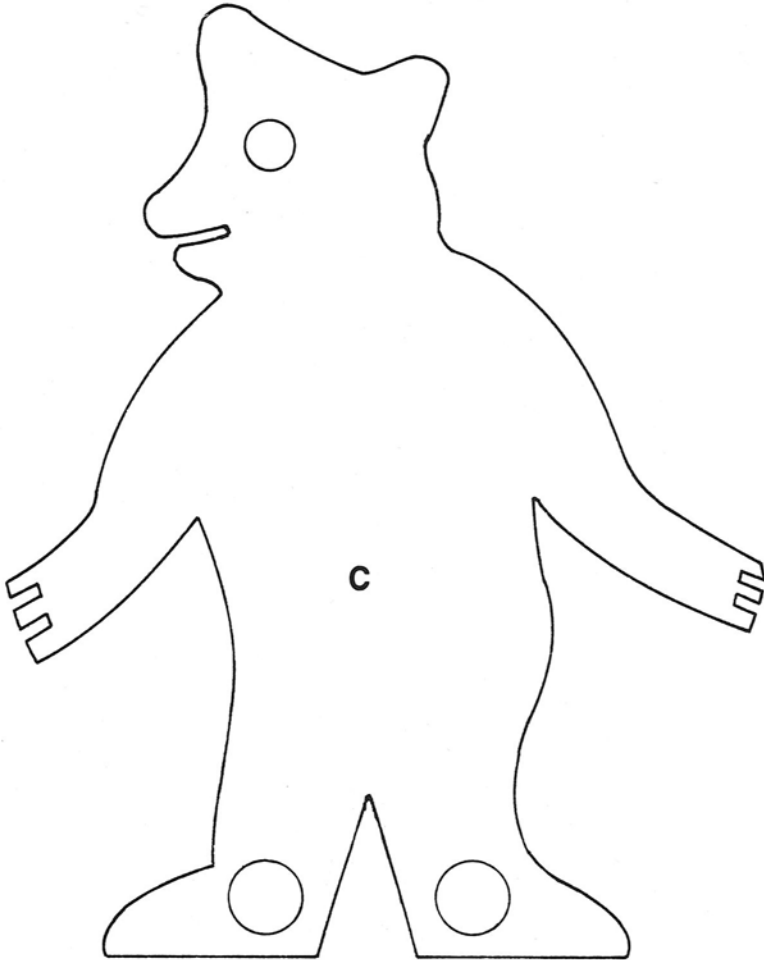
CARGO SHIPS



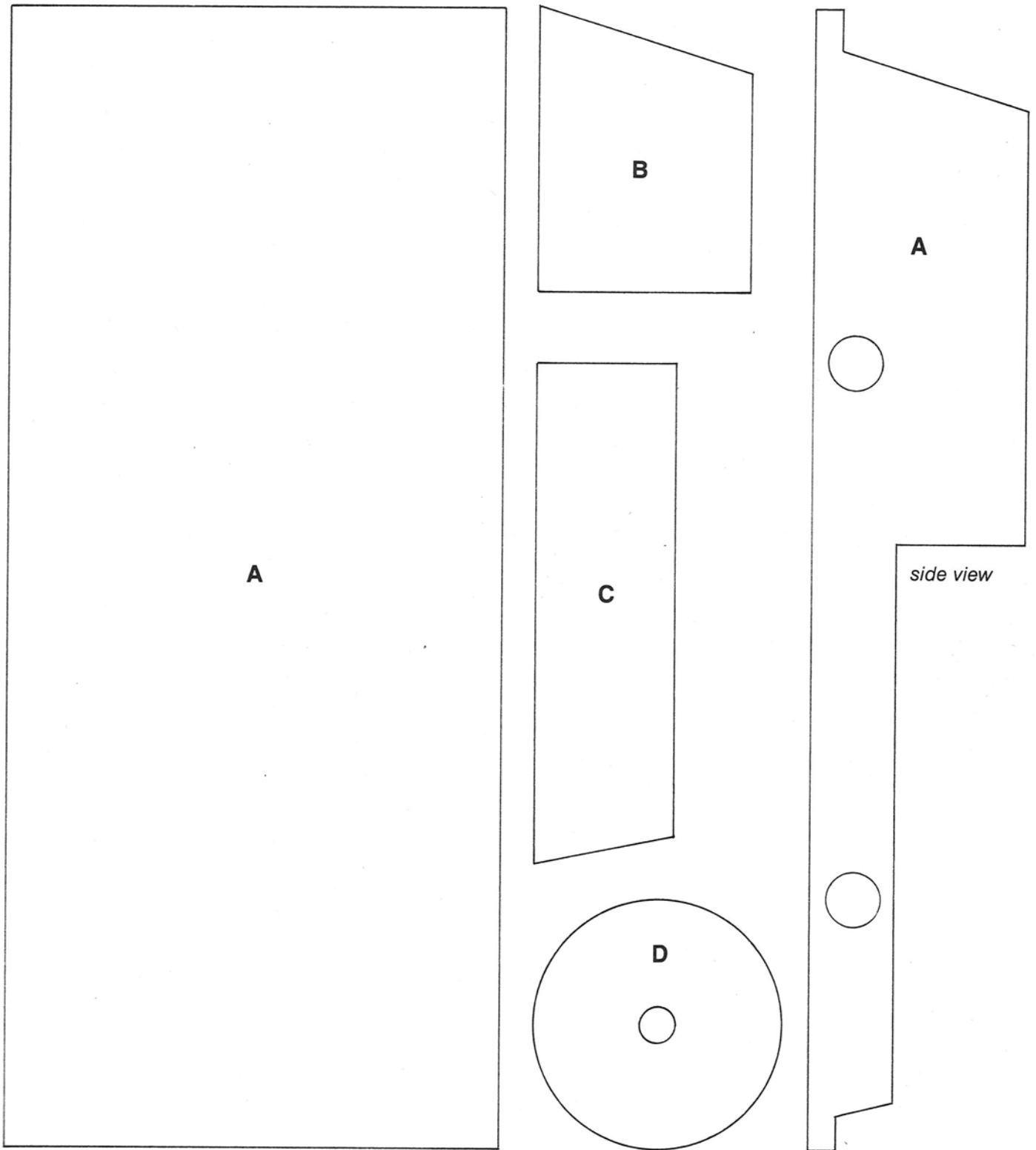
CIRCUS ANIMALS AND ACROBATS



CIRCUS ANIMALS AND ACROBATS

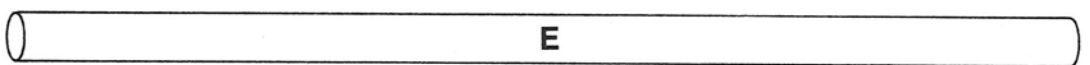


WORK TRUCK

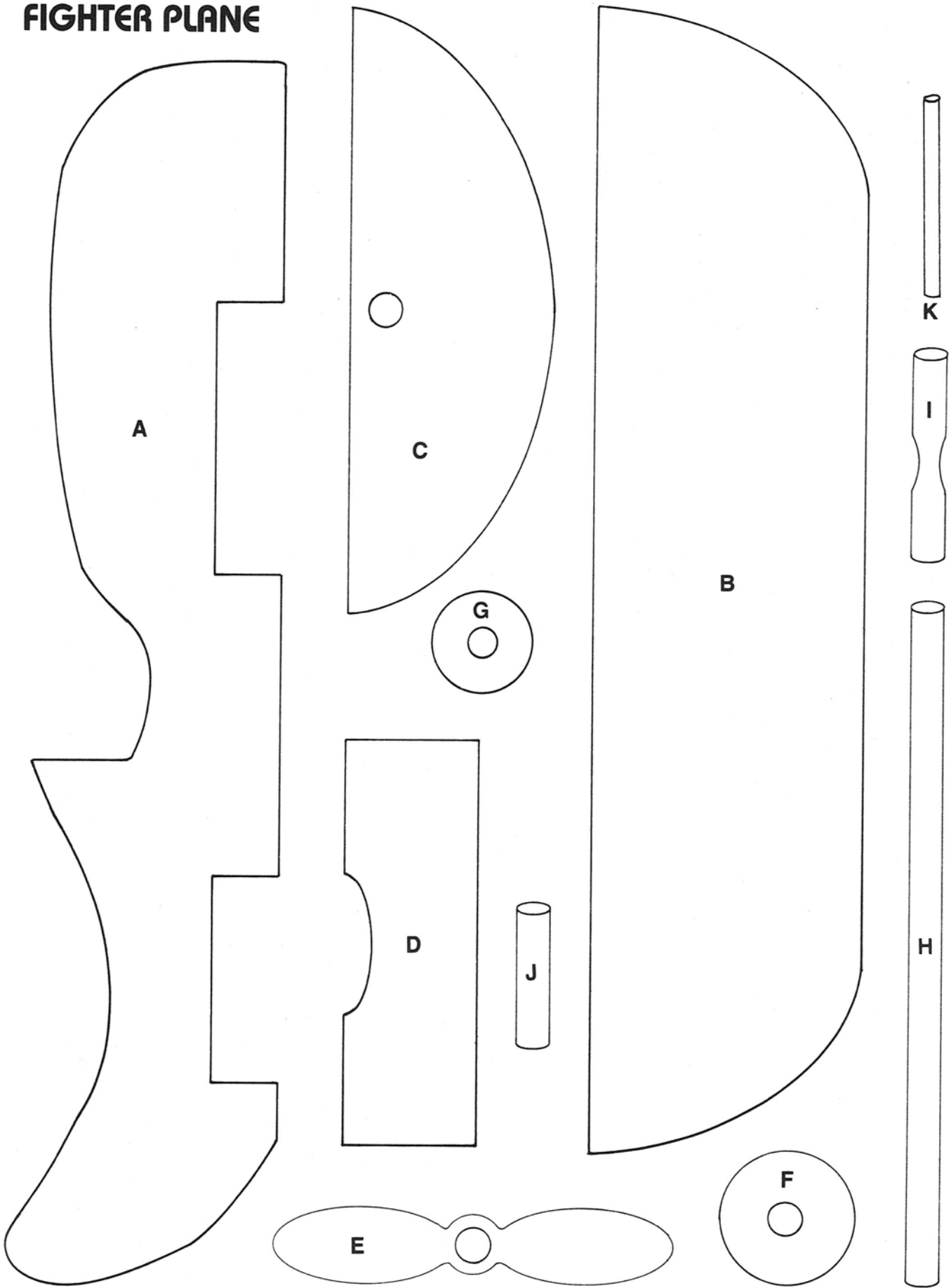


top view

side view



FIGHTER PLANE





MAKING WOODEN TOYS

James T. Stasio

Expensive electronic toys come and go, but the toys children really like the best are the simplest. The plain handmade wooden train, doll cradle, or circus animal is most often the key that unlocks a child's imagination.

This book makes it easy to create toys that will win a permanent place in any child's heart. After years of working with young children, veteran woodcrafter and educator James T. Stasio has distilled his expert knowledge into a handy, inexpensive guide to making 12 wooden toys of enduring appeal:

Helicopter
Biplane
Freight Train
Rocking Horse and Squirrel
Doll Cradle
Truck Bank

Oil Truck
Destroyer
Cargo Ships
Circus Animals and Acrobats
Work Truck
Fighter Plane

You don't have to be a master craftsman or purchase expensive materials. If you can use a saw and a screwdriver, you can make any of these charming toys quickly and easily.

For each project, a list of materials indicates how much wood and the kind of hardware you'll need. Exact-size templates for every part make cutting out the wood simplicity itself. And a large, easy-to-grasp exploded diagram shows precisely how to fit the parts together. The introduction also provides handy tips on selection of wood, finishing, and more.

Best of all, these sturdy toys will stand up to almost any amount of rough handling. And there are no batteries to replace!

Original Dover (1986) publication.

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