

# HOBBIES WEEKLY

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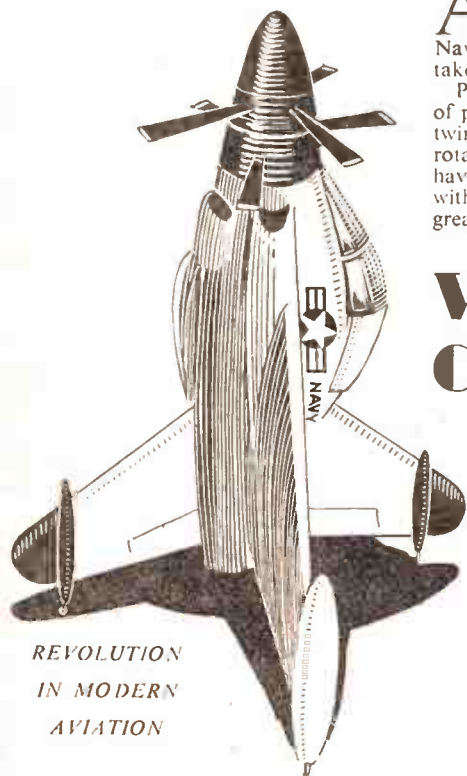
## *Straight up start—tail down landing*

A NEW approach to modern aviation is seen in the design of the Convair, an experimental U.S. Navy fighter plane, which is designed to take off straight up and land tail down.

Power to give this revolutionary type of plane a vertical take-off, comes from twin turbo-jet engines driving contra-rotating propellers. The plane is said to have the manoeuvrability of a helicopter, with the added advantage of a much greater turn of speed. (Fig. 2)

The pilot levels off into the conventional flight position after take-off, and for landing he manoeuvres back into the perpendicular and 'backs down' on the four landing wheels. All modellers will want to add this revolutionary type of aircraft to their collections.

Trace and transfer the pieces on the design sheet to the various thicknesses of wood and cut them out carefully with a fretsaw. To commence assembly, glue together pieces 1 and 2 as shown in



REVOLUTION  
IN MODERN  
AVIATION

## VERTICAL TAKE-OFF CONVAIR FIGHTER

*Make this  
model from  
our FREE  
design*

Fig. 1. This comprises the fuselage and tail fins. Next shape the wing (piece 3) which will fit through the slot in the fuselage. It is not necessary at this point to glue it in position.

Now shape the fuselage and tail fin according to the plan, side and front views on the design sheet. When completed, the wing can be inserted and glued in position (Fig. 2).

The propellers are cut from thin card (not in the kit), such as a postcard. To fix them securely, make incisions in the wood with the tip of a penknife or modelling tool, and glue the propellers into these slits.

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All correspondence should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk

For Modellers, Fretworkers  
and Home Craftsmen

World Radio History



# A Fermentation Wine Lock

**T**HERE is nothing difficult about making your own wine, and what could be nicer than a glass of pure home-made wine to offer your friends?

There are dozens of recipes to be had and many different methods of manufacture, but we will not discuss these here. Books on the subject can be borrowed from most public libraries, or they may be bought quite cheaply.

spoiling work.

By fitting an air-lock to the bottle you will be able to make wine correctly, and there is not so much chance of it turning. There are three types of air lock, or you may see them referred to as fermentation locks, and they all fit into an ordinary cork which is easily inserted into any wine bottle.

It does not matter which type you use; they are all very effective, and are

shown in the diagram. Glass is the best material to use, as it is clean and not affected by the various fruits and chemical changes due to fermentation. Another great advantage is that you can see how the work is progressing, and can tell when fermentation is slowing down and the wine ready for corking up.

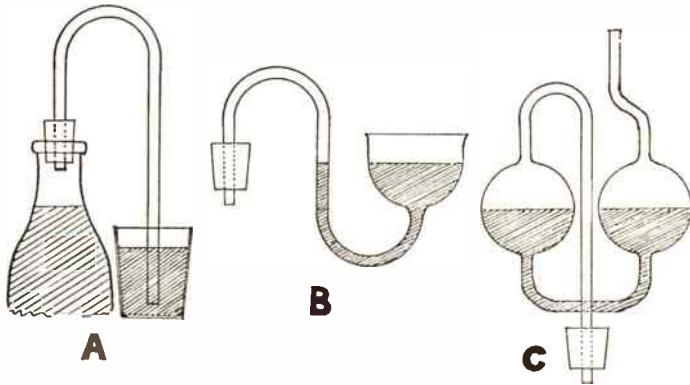
*By A. F. Taylor*

If you use metal tubing, aluminium is the safest and no other metal should be allowed to come in contact with the wine at any stage of its manufacture. It is best, however, to stick to the glass tube, even if it is more difficult to bend.

Quite thin tube may be used, and unless you have a bunsen burner, and can bend it yourself, it is advisable to buy it ready shaped, or get it done for you. Chemists should be able to supply thin glass tube either straight or bent to shape, or would possibly shape it for you for a small charge.

The simplest form of air lock is the inverted U tube shown at (A), the short arm going through the cork, while the other enters a jar of water. A thistle

● Continued on page 163



The object of this article is to show how to make a useful little gadget which will enable you to make your wine correctly. It is the manner in which your wine ferments that determines its quality—it may become an excellent dry or sweet wine with a high alcohol content, or it may possibly finish by being a strong vinegar.

It is necessary to know something about the process of fermentation without going too far into the technical side. When yeast has been added to fruit juice it attacks the oxygen and sugar molecules, converting it into alcohol, and it will continue working until all the sugar has been used up.

The greatest enemies of the wine maker are the countless germs or bacteria which are present everywhere. It is these which, if allowed to come in contact with your fermenting wine juice, will turn it into vinegar. In order to keep these bacteria alive, they need plenty of air, therefore, if you can keep the air away from the surface of the wine, you will be able to keep the germs away.

A lot of wine used to be made in open casks or stone jars, but the large surface open to the air did not help the bacteria problem. Now, however, large quantities are made in bottles having narrow necks, and while this is a considerable improvement, the bacteria can still get at the liquid and do their

● Continued from page 161

## Making the Convair Fighter

The pins which represent the landing legs can now be added. The heads are bent at a rightangle. Do not forget to drill the wood before inserting the pins

Fig. 1

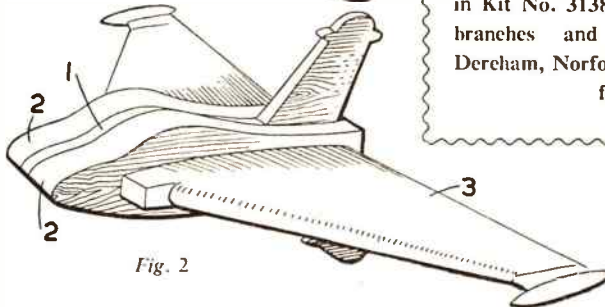
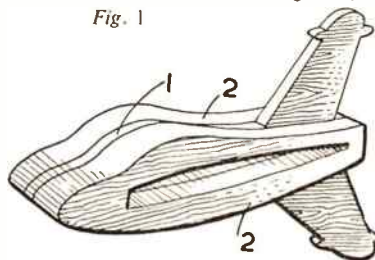


Fig. 2

to prevent splitting. If oversize, any looseness can easily be remedied by a touch of glue.

Prepare for painting in the usual way by glasspapering smooth. The model would look distinctive if painted a silver grey with coloured markings. Intakes for the jet engines, the propellers and cockpit cowling should be painted black.

### KIT FOR 3/4

All the wood etc, necessary for making this model is contained in Kit No. 3138, obtainable from branches and Hobbies Ltd., Dereham, Norfolk, price 3/4 post free

# Make a Paper Cutter

Says *W. J. Ellson*

READERS interested in the craft of bookbinding will find the cutter described here an invaluable tool for trimming the edges of unbound volumes. It is designed on lines similar to the professional bookbinders plough, an article on which appeared in 'Hobbies Weekly' some time back, but the one described here is lighter in weight, and requires no wood screw to bring the cheeks together. An ordinary iron screw bolt does that part of the work.

the back cheek on the rods lin. or so, and keep it there until the glue is set hard. The cheeks should close and open smoothly, and if inclined to stiffness, a slight glasspapering of the holes will ease the movement.

The bolt should be 7ins. or 8ins. long of  $\frac{3}{8}$ in. diameter, and provided with a wing nut. As the threaded portion may

this, as in the diagram, and a hole, well countersunk, should be drilled to take a stout gauge screw for fixing in position. Chisel out a recess for this knife in the centre of the front cheek, as already mentioned, and attach the knife with the screw. Make the recess a tight fit, as the knife must be firm, with no tendency to shift sideways. It is essential, if the cut edge is to be truly square with the sides of the volume, that the knife be fixed at right-angles to cheek of the cutting tool.

An end view of the cutter ready for work on the press, is shown in Fig. 3. For guiding the rear cheek in its travel backwards and forwards, two strips of wood are nailed to the rear cheek of the press, providing a groove for that purpose. The volume to be trimmed is held between backing boards, the rear board being  $\frac{1}{2}$ in. higher than the front one, which is level with the proposed line of cut. Between the book, and its rear backing board, a sheet of cardboard is interposed to save the board from damage by the knife.

### Push to and fro

Clamp all up in the press, with the front board level with the top of the front cheek of the press. Place the cutting tool in position, and screw up until the point of the knife contacts the volume. Then push forwards and draw backwards, giving the nut of the bolt a slight turn each time, until the volume is cut through.

If the nut reaches the end of the threaded part of the bolt before cutting is completed, unscrew it, slip on a piece of the tube, replace nut, and continue. Keep the knife well sharpened, using a file, and smoothing the edges afterwards with an oilstone. Remember to clamp up the volume very tightly before attempting to cut.

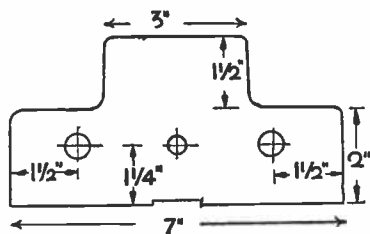


FIG 1

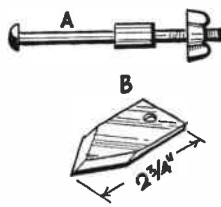


FIG 2

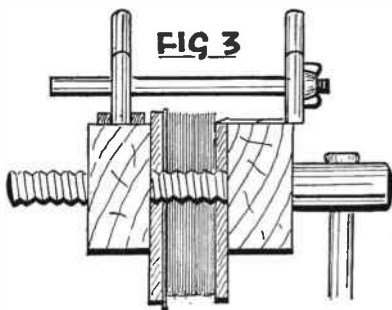
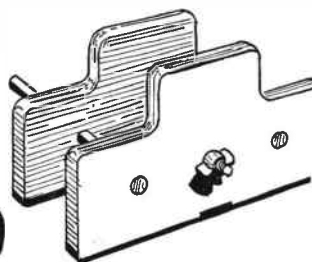


FIG 3



not always be sufficient to close the cheeks enough, when a thick book is to be trimmed, provide one or two lin. lengths of metal tubing, of a bore to slip over the bolt. One is shown on the bolt, Fig. 2A.

For the cutting knife Fig. 2B you will need a piece of steel, about 2 $\frac{3}{4}$ ins. long and 1in. wide. Grind or file an edge on

The cheeks of the cutter are shown in Fig. 1, and can be set out on suitable hardwood of a thickness between  $\frac{1}{2}$ in. and 1in. The centre hole should be bored to suit the screw bolt to be used. The holes either side are  $\frac{1}{2}$ in. They hold the guide rods necessary to bring the two cheeks evenly together during the cutting. It is of importance that all these holes are in true alignment with both cheeks, so a good plan is to fasten the cheeks together, temporarily, with a screw at each end when boring the holes.

### Cutting knife recess

At the bottom edge of the front cheek only, a recess is shown in which the cutting knife is to be fixed. This can be sawn and chiselled out later, when the cutter is made up. For ease in handling the tool, round off the top edges of both cheeks, and make smooth with glasspaper. The guide rods are 8ins. lengths of  $\frac{1}{2}$ in. round wood rod. They are glued to the front cheek only. Push

● Continued from page 162

## Fermentation Wine Lock

funnel on the end of the glass tube cuts out the need for a jar of water, and the correct shape is shown at (B).

The more professional looking model (C) consists of two bulbs on the same level, each being half-filled with water. This type is somewhat difficult to make, and does not give any better results than the simpler (A) or (B), which are, therefore, to be preferred.

In order to keep them airtight, the tubes should be sealed into the corks with paraffin wax. Sufficient water is placed in the jar of (A) to well cover

the long arm of the tube, while the thistle funnel of (B) must be about half full. As fermentation proceeds, carbon dioxide bubbles escape through the water but, obviously, no air can enter in the opposite direction. At the beginning of the process, large quantities of gas will be given off, but as fermentation proceeds, the bubbles will be less frequent and will eventually cease. By noting fermentation from day to day, a very accurate account can be obtained, and the wine bottled up and corked tight at the correct moment.

**A. F. Taylor**

*introduces*

*our special*

**Christmas**

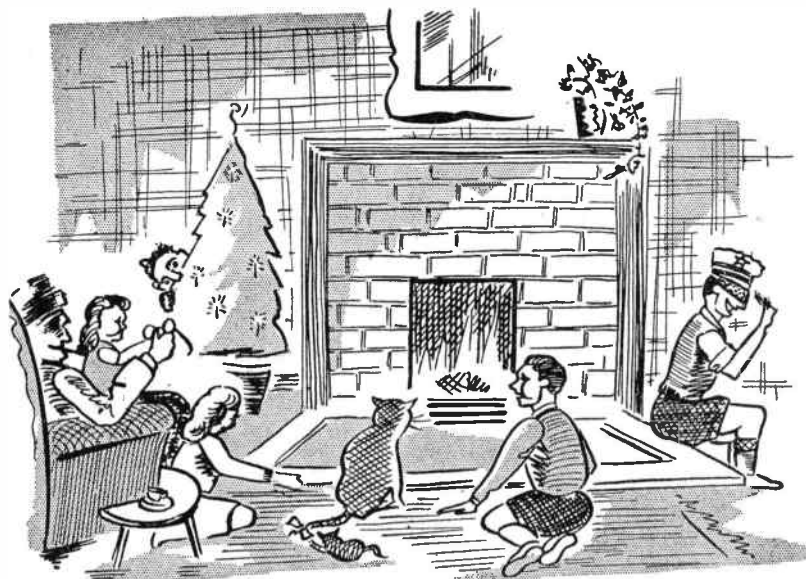
**Features**

*by showing*

*how to*

*entertain*

*guests with*



## THE TELEPATHY GAME

**A** PRACTICAL exhibition of telepathy is, undoubtedly, an ideal way of entertaining your friends at a party or concert. It can be performed at any time and for most occasions, and will always receive a hearty welcome.

The dictionary defines telepathy as the action of one mind on another at a distance through emotional influence without communication through the senses. There are, however, very few people who possess this rather exceptional power, but there are other means by which anyone can apparently indulge in the art.

The secret lies in the use of a code that can be made up to suit your individual requirements and which is quite easy to memorise. The idea is not new, but has, in fact, been in use for a great number of years, and during that time, countless different codes have been evolved.

To those who have not witnessed an exhibition of telepathy, a word of explanation is necessary. Two people are needed for the act—one being blindfold, while his accomplice walks among the audience and asks him various questions, such as what different people are wearing, or to identify some article which has been handed to him.

Provided the code has been learned thoroughly, the blindfold person should be able to answer almost any question fairly accurately and quickly—to the bewilderment of the audience.

The code given in this article was drawn up by the writer, who used it very successfully with a friend for many years. To start with only the first half of it, from A to M, was learned, and then after some actual practice at concerts a few more lines were added, until the code was completed.

Now study the code and see how it works. The first column contains the 'Code words' and one of these will be used to commence each question asked. It is these words coupled with the manner in which they are used, that tells the blindfold person all the answers.

In the second and third columns are the numbers 0 to 26 and the complete alphabet. The next four columns contain an assortment of articles which cover clothing and things that people would most likely carry about with them. Other columns can be added to cover a wider range of articles, but this makes learning them more difficult, and it is advisable to stick to the original four for the time being.

In the two remaining columns are a range of colours and the most common metals or materials which an article may be made with.

When giving a demonstration of telepathy each question asked must begin with one of the code words in the first column, and for some articles it is preceded by one of the additional code words at the top of columns 5, 6 and 7. Let us give a few examples to show exactly how it works.

Start off by choosing something from the first article column—for instance if it is a boot then the question will be 'CAN you tell me what I am pointing to?' When the blindfold person answers correctly, the next question can be preceded by 'Yes', which indicates something from the next column, such as YES, WHAT is this?' The article, of course, is an umbrella.

Do not say 'Yes' when answered correctly, unless the next article is in the column headed thus. You may say 'Right' or anything similar that is not a code word.

Do not be alarmed if something is handed up that is not in the code; you can describe what it is made of or its colour. Something made of nylon would be 'THIS is made of?' and if it is red it may be followed with 'NOW tell me the colour'

It is a very good idea to have a column of different brands of cigarettes, as you are bound to have them handed up, and it adds to the amazement of the audience. A string of questions fired at the blindfold person can describe quite a lot. Try to work out what you would say for a case made of silver with a gold lining, the letter 'C' stamped on the front and containing six Player's cigarettes.

Coins are another popular line—find out the metal first and then the value. The number column is used for this, and with copper coins 1, 2 and 3 indicate a farthing, halfpenny and penny. With

A SUGGESTED CODE FOR THE TELEPATHY GAME

CODE WORD			YES	NEXT	READY			
TRY	0		Nothing					
WHAT	1	A	Walking Stick	Umbrella	Gloves	Fur	White Nickel	
GO	2	B	Bag	Basket	Purse	Wallet	Yellow Brass	
CAN	3	C	Boot	Shoe	Stocking	Sock	Green Iron	
SEE	4	D	Tie	Bow	Collar	Belt	Blue Steel	
AND	5	E	Lady's Hat	Cap	Gent's Hat	Beret	Brown Lead	
PLEASE	6	F	Pen	Pencil	Knife	Rubber	Black Tin	
WILL	7	G	Comb	Lipstick	Ribbon	Feather	Pink Foil	
NOW	8	H	Match	Cigarette	Paper	Pipe	Red Copper	
GIVE	9	I	Case	Box	Book	Card	Silver Silver	
TAKE	10	J	Watch	Chain	Pendant	Necklet	Gold Gold	
YOU	11	K	Handkerchief	Scarf	Jumper	Scent	Purple Chromium	
HERE	12	L	Ring	Key	Bracelet	Armlet	Cream Ivory	
ALRIGHT	13	M	Pin	Needle	Brooch	Beads	Orange Plastic	
JUST	14	N	Powder	Powder Puff	Hair Slide	Mirror	All Colours Wood	
PERHAPS	15	O	Nail	Screw	Nut	Tool	Mauve Glass	
THIS	16	P	Thimble	Scissors	Sweets	Chocolates	Grey Nylon	
TELL	17	Q	String	Stud	Cuff Link	Cycle Clip	Fawn Wool	
DO	18	R	Tobacco	Pouch	Lighter	Coal	Tan Cotton	
ALSO	19	S	Curio	Button Hole	Ornament	Cork		Silk
THINK	20	T	Button	Button Hook	Spanner	Corkscrew		Linen
LET	21	U	Letter	Post Card	Cig. Card	Photo		Velvet
COULD	22	V	Coin	Note	Music	Magazine		Net
SUPPOSE	23	W	Chair	Table	Cushion	Duster		Leather
NAME	24	X	Ear-ring	Clip	Spectacles	Strap		Crepe
SAY	25	Y	Ticket	Clock	Vase	Ruler	Light	
INFORM	26	Z	Ball	Whistle	Tin	Bottle	Dark	

silver coins, the same applies, 1 representing a threepenny piece, 5 for a half-crown and don't forget the five shilling piece. A twelve-sided threepenny piece is called brass to avoid confusing it with the silver one.

To give the date, omit the first two figures as most coins are 19 something. 'CAN you tell me the date, PLEASE?' would be 1936. If the coin happens to be a last century one, you can ask the date of this old coin.

If children are in the audience, get one or two to whisper their birthday to you.

The months will be from 1 to 12, and if you want the days of the week, the same applies, 1 being Sunday.

You will need quite a lot of practice with your friend, and an excellent way to learn the code is to write each article, colour, number, etc., on a separate piece of paper, and put them in a box and shake them up. Pick them out one by one, and ask the necessary question, then change over and get your friend to ask you.

There are lots more code words that can be used if you wish to make up

your own or do not like some that are quoted. Also the articles can be grouped differently and others used instead, but that will depend on the type of audience you will meet.

It is impossible to give but a short account here of the endless possibilities of such a code and when worked properly, it will cause great fun both to yourselves and to your audience. Many people would be pleased to book such a performance for a concert or party at any time of the year, and probably pay well for it.



# Conjuring with Chemicals

**A**ROUND the festive season a conjuror is always welcome at a party. While the sleight-of-hand conjuror can work up a good show, he strikes a familiar note. It is surprising how few conjurors realise the far greater possibilities and baffling effects which can be produced by chemical conjuring.

Imagine, for instance, turning a white flower into red by spraying it with scent, or making a colourless liquid suddenly turn blue merely by passing your hand before it. You can even take a glass of tap water, add starch paste and turn it to milk, add beer to that and produce blue ink, and finally add red ink and turn it to water. Tricks like these make even experienced sleight-of-hand conjurors sit up!

HYDROCHLORIC ACID

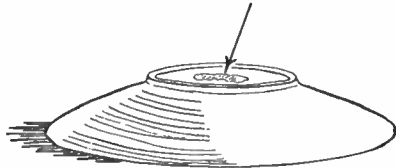


Fig. 1

Work up a little suitable patter and you will have a show to be remembered. Try out privately all the tricks you select, so as to be familiar with the manipulation and to have that non-chalant air of confidence on the big night.

Changing a white flower into a red is an effective trick if you arrange for a vase of white flowers, seemingly for decorative purposes, to be standing in some part of the room. You admire them, but suggest a red one would improve the effect. Begging the loan of a scent spray containing eau de Cologne from your hostess, you spray the flowers and one immediately turns red!

## Preparation

Before the guests arrive you sprinkle one flower with finely powdered magenta, shake lightly so that no powder is apparent and replace the flower. Magenta is such a powerful dye that even traces invisible on a casual glance will dissolve in the eau de Cologne to give a red solution which colours the flower surface.

You will, naturally, have a small table before you holding the odds and ends for your performance. Among the objects there is the usual speaker's decanter and a tumbler beside it. Both contain some 'water'. Proposing to make the water turn blue without

apparent cause, you empty the tumbler into the decanter, stare hard at the water and make 'hypnotic' passes before it with your hand. In about a minute and a quarter the water becomes suddenly blue.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★  
 ★ Perhaps some of our younger ★  
 ★ readers will receive chemistry sets ★  
 ★ for Christmas. 'L.A.F.' outlines ★  
 ★ here some tricks to mystify even ★  
 ★ the grown-ups. ★

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★  
 For this transformation three solutions must be made. The first consists of starch paste and is made by grinding 1 gram starch to a cream with a little water, pouring on 100 c.c. boiling water, boiling up for about a minute and allowing to cool.

The second you should make by dissolving 0.2 gram sodium sulphite in 50 c.c. cold water and adding 1 c.c. dilute (10 per cent) sulphuric acid. Make up the volume of this to 225 c.c. with water containing 10 c.c. of the starch paste to 200 c.c. water. Pour this second solution into the decanter.

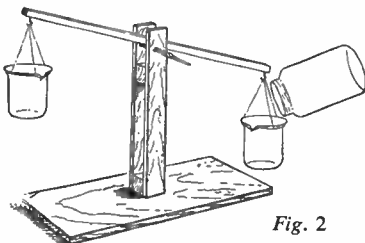


Fig. 2

The third solution is produced by dissolving 0.5 gram potassium iodate in about 50 c.c. warm water, allowing to cool and then making up the whole to 225 c.c. with cold water. Put 150 c.c. of this solution in the tumbler.

Be prepared for the wag who asks 'Ah, but can you make it colourless again?' 'Certainly', you reply, producing a second empty decanter from under the table, pouring the blue liquid into it and giving it a swirl. It is at once decolorised! The second decanter has been lightly wetted within and a little powdered sodium thiosulphate carefully sprinkled on the bottom, so as to be unapparent from your position.

For the astonishing changes involving starch paste, beer and red ink, first dissolve a gram or so of bismuth carbonate in warm dilute (10 per cent) hydrochloric acid. Make some starch paste with boiling water and when both liquids have cooled, add some of the

bismuth solution to some of the starch paste. The starch paste will become milky. Clear the milkiness by adding more dilute hydrochloric acid. What appears to be plain starch paste results.

In a beer bottle you have iodine solution, diluted with water to the approximate shade of beer. The 'red ink' you should, of course, have in a washed-out red ink bottle complete with label. It consists of a strong solution of sodium thiosulphate containing enough added phenolphthalein solution to produce a full clear red when a few drops of sodium hydroxide solution are stirred in.

## Blushing Lady

An amusing and spectacular three-fold trick is to light a cigarette without match or lighter and propose to transfer the cigarette smoke to a closed jar, but before doing the latter make a lady's portrait blush by plunging it into the jar. To light the cigarette, make a cone-shaped heap of powdered potassium permanganate on a tin lid, make a small hollow in the tip and drop in two drops of glycerine. In a few moments the mass will burst into flame. Light a spill or taper from it and light your cigarette.

The jar contains three drops of strong ammonia in the bottom. A drawing of a lady's head, which has previously been painted within the outline of the face and neck with phenolphthalein solution and allowed to dry, is plunged in the jar. The white skin blushes delicately. Removal from the jar makes the blush disappear. This process can be repeated if desired.

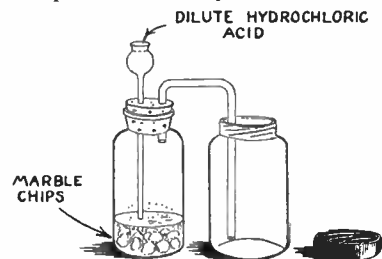


Fig. 3

An inverted saucer, some distance away from the jar, has had three drops of concentrated hydrochloric acid placed within the lower rim (Fig. 1). Turn this right side up, place it over the jar and quickly cover the whole with a cloth. Walk to the other side of the room and take a few puffs of your cigarette. Return to the jar, remove the cloth and the jar will be full of smoke! The acid and ammonia fumes have reacted to produce suspended fine particles of ammonium chloride.

# More Spectacular Tricks

**A**NOTHER astounding trick is to take a piece of yellow paper and ask a guest to select a feather from a bunch of feather pipe spills—which could be casually standing on the mantelpiece. With the bare end of the feather you write your name in red characters on the yellow paper! This can be even more convincing if you use the untipped end of a match given to you by any guest.

The yellow paper—filter paper is good—has been painted with mercuric iodide mixed to a thin wash with water. Before the party hold the paper, painted side down, over a flame. The red mercuric iodide will turn to its unstable yellow form, which on rubbing with any hard body reverts to the red. Mercuric iodide is poisonous and though the minute amount you may get on your fingers is unlikely to do any harm, be on the safe side and wash your hands before eating anything.

You might here include another writing trick. You suddenly remember you forgot to drop a post card to a young lady and must do it at once. You find a postcard and an ordinary steel pen, but no ink. 'No matter', you say, 'I'll use water' Dipping the nib in an egg-cup of water you pause a moment with your pen poised and say: 'The

nature of the message makes purple ink most suitable, so here goes'

You then write a short amusing affectionate message, reading it out as you go along. Purple ink flows from your pen as you write!

The secret here is to dissolve 4 grams of gum acacia in 10 c.c. of water and then grind in 1 gram of Methyl Violet. Place a small bead of this liquid under the nib of the pen and let it dry. On dipping in water the Methyl Violet provides the ink. When the writing runs dry simply redip in the water. Quite a long letter can be written with one bead of the mixture. The pause before writing gives the gum time to soften.

Standing on your table is a wooden rod balanced on a triangular file supported by two wooden pillars. From each end of the rod is suspended a glass beaker by means of thin twine. This is easily made as Fig. 2 makes clear. In other words, you have a rough pair of scales whose loads are equal on each side; that is, they weigh the same. You now propose to weigh nothing. Taking an empty screw-top jar you remove the top and, as if you were carefully pouring out some invisible liquid, hold it over one beaker. That beaker sinks down!

The screw-top jar has previously been filled with the colourless heavy gas

carbon dioxide. Produce the carbon dioxide by acting on marble chips with dilute (about 20 per cent) hydrochloric acid in the apparatus shown in Fig. 3. The heavy carbon dioxide displaces the air in the jar. To find out when it is full, dip a lighted spill into the top of the jar, when it will be extinguished.

While preparing this gas you can also prepare for your final bit of magic. Simply fill a second jar. The lids of both, by the way, should be screwed up tightly and the jars kept in the upright position until used, so as to prevent leakage.

Your audience will agree that air supports combustion. Yet you assert that by pouring more air over a burning object you can extinguish it. Place a stub of lighted candle in a jar, tumbler or beaker smaller than your second jar of carbon dioxide. Carefully empty the second jar—apparently full of air—into the vessel. The candle will go out! Now ask the guests to see if they can do likewise—at the same time casually laying the vessel on its side (to empty out the carbon dioxide) while you relight the candle. With the now empty second jar the guests will be unable to extinguish the candle and firmly and finally be convinced that you are a very unusual magician.

## Angling Opportunities

**T**HE Christmas holiday break provides angling enthusiasts with opportunities to pay a visit to the waterside. River, lake, and canal—provided the weather is open and mild—afford excellent chances of sport.

It is worth remembering that most of the 'coarse' fish are in capital condition at this period; in particular pike, roach, chub, perch and dace are usually active, and in their prime. Much, of course, will depend on the weather. The Yuletide angler, out for sport, is more constrained to study waters and weather than the summer visitor. He selects his time, if he can, so that he may adopt methods of angling likely to be the most advantageous.

For pike-fishing, then, a bright, frosty morning with the river flowing at winter level, more or less normal, will be chosen when he goes forth equipped with a spinning-rod and a few assorted artificial lures—Devons, quill minnows, spoons, etc. On a mild day the alternative is to live-bait with snap-tackle and a cork float to buoy up the bait—a roach or other small fish.

Bottom-fishing for roach, perch, chub

and dace at Christmas is best suited to the younger and hardy sort, who, if we are blessed with a mild, open holiday period, may get some nice sport. The bigger roach, under normal conditions, freely take a bait at this time. In winter you need not clutter yourself up with a big variety of baits—worms, maggots, and paste and breadcrust will serve very well. There should be something among them to tickle a hungry fish's fancy.

As to the perch, these grand fish are in finest condition in mid-winter, and the bigger ones are not against snapping up a bait intended for a pike. After a flood the eddies and holes under the banks are spots attractive to these dark-striped fish, and a red worm is an excellent bait; or a live minnow, if you can manage to obtain a supply at this season.

You will have to seek the dace in the deeper swims and not on the shallows, as in summer. Fish your bait close to the bottom—worm or a maggot should serve.

Do not overlook the attraction for chub of a piece of cheese during winter time. A piece of strong stuff—the stronger the better—about the size of a

small marble. It is a practice to drop in a few small pieces into the water—close under the bank a little distance above the spot where the fish are lying, as cheese does not sink quickly. Then follow the groundbait with your bait on float tackle, maintaining a stance some yards away upstream of the hole. Swim the bait down under the bank as far as you can, keeping the line under control. In cold winter weather the bait should be adjusted so that it is close to the bottom, but not actually dragging.

Chub are to be caught on a paternoster tackle, another likely bait being a nice juicy lobworm. In winter keep a stock of worms in an old tub filled with rich loamy soil, placed in a shed or other convenient spot away from frost. Another effective bait for paternostering is a live minnow hooked through its upper lip. But first catch your minnows—*not easy in winter.*

Remember that the chub is a paradox among fish—you never know how they will meet your advances. You may easily coax them with a fine line and delicate tackle and a single maggot for bait, and you may on another occasion 'pull' them out of the ale-coloured water on thick coarse tackle, with a garden lob as bait. Or again, you may not!

*A White Christmas?—then . . .*

# Take Snaps in the Snow

**I**N England we rarely experience very long snowfalls, and so snow pictures make quite valuable and interesting records for the album. Be ready, therefore, when the first flakes begin to fall.

To get good snow pictures is not easy. One certainly can very readily obtain snaps merely showing snow lying about, but to secure a set really portraying the spirit and atmosphere of the fall, is another matter.

Snow pictures can be taken with any kind of camera, but under-exposure must be avoided, as this yields a 'soot and whitewash' result, where the shadows are black without detail, and the snow just an expanse of white paper.

Having obtained a nice soft negative in which all the delicate gradation of the snow banks and expanses before you have been retained, do not go and spoil things by printing on a too contrasty paper. If anything, make for a soft print. This will not have the 'kick' of the summer D and P prints, but all the fine shades of your snow scene will be retained and the picture will *look* like snow.

To get the atmosphere of a snow storm two things must be aimed for.

~~~~~  
*By H. A. Robinson*  
~~~~~



*Down a country lane*

Over-development makes for a harsh negative and clogs up all the fine gradations in snow, which really make the picture. An excellent developer for snow scenes is Capitol. This is a vigorous developer and gets the most out of the shadows, but it never causes the highlights to become opaque. Which is just what is wanted.

The packet M.Q. is also a good soft working developer if the exposure has been quite liberal. Exposures for snow scenes are brief, being classed with beach scenes, but they should not be too clipped, particularly if there are areas of deep shade to be considered. Some typical exposures are given at the end of the article.

The first to have the sky appearing dark and overcast; the second to have snow clinging to the sides of trees, gate posts and the like.

### **Tone down Sky**

The dark sky can be readily obtained if the snow clouds are still about, but if they have dispersed and a blue sky follows (as it often does), it can be toned down by using panchromatic film and a filter. This will leave the snow white but darken the sky in contrast. Up to x 4 filter can safely be used if the light is bright.

If everything else fails, then small areas of sky at least, as showing between branches, can be taken down on

the print with one of the dyes sold for retouching. Martin's Retouching Dye diluted with a little water containing a drop of Johnson's 326 Wetting Agent is excellent for the purpose. If carefully put on, handwork of this kind is quite undetectable.

To get the 'snow-on-trees' effect, a 'big flake' storm is always more serviceable than the dry, wind-swept blizzard, for then the snow comes down as an impalpable powder, which never sticks on anything.

As distinct from faithful records of some area under snow conditions we get the purely pictorial effect. Thus, single snow-laden trees make quite good shots, as do avenues and tree-lined park paths, etc. Footprints in snow give quite interesting snaps, as do light and shadow arrangements over limited areas.

### **Remarkable Designs**

Frost and icicles can make pictures that anyone going through your album will look at twice. On window panes frost produces the most remarkable designs, which can be photographed with any instrument that is capable of focusing to only a few feet, or by the use



*and a lonely furrow*

of magnifiers. With suitable apparatus snowflakes themselves, of course, have the most beautiful shapes.

Exposures against the light with shadows coming towards one give some excellent results. But a lens hood must be used, or the camera placed in such a position that a shadow comes across the front.

But for lasting interest in your collection, the 'direct record' picture wins, especially if it shows something unusual. Hot haste, then, should be made to a snowed-up lorry or train, while snow-covered and abandoned cars all tell a dramatic story.

Pictures can be taken while the flakes are coming down, if the lens is shielded





## B - R - R - R

*We hope our motor-ing readers are not caught out in the elements but there is some compensation if you have a camera handy*

and a sufficiently short exposure given to prevent every flake being just a long white blur. However, a trifle of blur in the flakes can produce a splendid storm-swept appearance.

In printing, the most pleasing results are given if the paper used has a cream base, which, for some reason, seems to suggest the fine gradations of snow better than silver-grey or black tone finishes. Cream bases are used a lot on the Continent, but they can be obtained here, especially for enlarging papers. The only papers to really avoid are the vigorous type, which in subjects of this

kind, always kill the fine half-tones which are so essential.

Now just a little more about what exposure to give. Between 10 a.m. and 2 p.m. on a winter's day (November to February) and using an f8 stop, a film about 29° Scheiner and a usual developer (packet M.Q., etc.), a good result can be obtained with an exposure of 1/50 second if the sun is shining, though not necessarily very strongly. If overcast, 1/25 second must be used.

With very strong sun between 10 a.m. and 2 p.m. 1/50 second can be used with f11, and the smaller stop will help to

improve the general definition and give better focus of distant and close-in objects. If on the other hand it is very dull during these hours, the exposure for f8 and f11 respectively, will be 1/10 second and 1/5 second.

## Charming effects

Daylight pictures cannot be taken after 3 p.m., but between 9 a.m. and 10 a.m. with a clear sky, an exposure of 1/25 second can be attempted with quite a good chance of success. Snow pictures at night give charming effects and can well be secured with modern materials. A flash bulb, for which quite inexpensive cameras are now fitted, can be used, or the exposure made by the light from street lamps or house windows.

At night there is some latitude in the matter of exposure times and one can often get a good picture, though not using quite the correct theoretical time. The difference is only a matter of effect. With a fairly well-lit snow scene, however, f8 stop and a 29° Scheiner film about four seconds will give a nice result. For this the camera must be on some solid support.

## An attractive hobby for the holidays

# PRESSING WILD FLOWERS



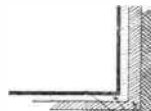
them beneath glass. Trays, fancy box-tops, table-tops and framed pictures could all be utilized.

After the flowers and ferns of your choice have been collected, cut away all thick sections and stems which will never show. Now, take all the buds and heavy

*By James MacIntyre*



CUT AWAY STALKS



GLASS FLOWERS PAPER CARDBOARD



flowers and carefully split them with a sharp knife as illustrated. When all the flowers and ferns have been split, place them between sheets of blotting paper.

Next, lay over the specimens a drawing board or some weight that gives an overall, even pressure. After the flowers have been completely dried, choose the size of picture you wish to make. The glass, backing board and

paper mounting should all be cut the same size. The paper mounting should be of a tone which will show off the flowers to the best advantage.

Now arrange the flowers in the most attractive way. A spot of quick-drying glue should be applied to the back of each subject.

All that remains to be done now is the framing. Passe-partout could be used or light wooden framing would make a more permanent job.

**H**EDGEROWS and banks produce many types of wild-flowers all through the year. A permanent method of preserving the more attractive flowers is to press and mount

# TRICKS OF MAGIC

**C**HRISTMAS time is party time, but it sometimes happens that the list of children's games comes to an end, and the grown-ups are in a state of exhaustion. This is the moment to introduce a programme of conjuring tricks, and save everyone from the horror of yet another game of 'musical bumps' or 'nuts in May'

Seat the children on the floor at one

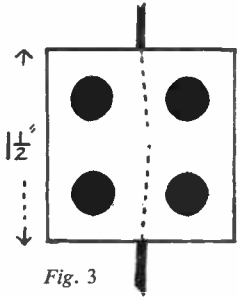


Fig. 3

end of the room. The lighting should be subdued—a floor standard or wall lights are ideal. If the young audience, in their enthusiasm, crowd forward, it is a simple matter to get them to the far end of the room by warning that it will spoil the magic space.

All the following tricks are easily made at little expense. A smooth patter will make them more convincing in mystifying the children, and, maybe, the adults as well. A little practice beforehand will ensure perfection.

## The Magic Rope

For this trick you will need a quart bottle in dark brown glass, 1yd. of rope, and a cork stopper. Cut the cork into a small ball the size of a marble, so that it will drop easily into the bottle. Darken it with indian ink.

Explain that there is not enough room to do the Indian rope trick, but that you can stiffen an ordinary rope so that it will support a bottle. Give the bottle and the rope to your audience for examination. All this time you are holding the cork hidden between the base of the second and third fingers, on the underside of the hand.

As you take the bottle from the audience, put your hand over the neck and drop the cork inside. Push 1ft. of the rope into the bottle and withdraw it. Then push it in again, wiggle the rope about, and as you speak the magic words, quickly turn the bottle upside down and give an imperceptible tug on the rope. The cork will fall into the neck and wedge the rope securely. Reverse the bottle and swing it on the end of the

rope. Finish by swinging the bottle into your hand, push the rope slightly into the bottle and it will pull free when the 'wedge' drops. As you return the bottle and rope for re-inspection, unobtrusively return the cork to your hand.

## Houdini Coin

The materials needed for this trick are an oblong 2oz. tobacco tin, a loz.

By J. R. Burt

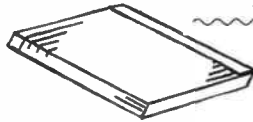


Fig. 1

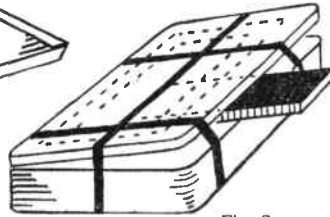


Fig. 2

tobacco tin and a smaller tin that will fit inside it, a piece of tin 3ins. by 2ins. and some rubber bands. Hammer the tin round a steel rule to make a flat sleeve as Fig. 1. Take a white linen handkerchief, push a farthing or silver three-penny piece in the corner of the hem, and tack it in position with white cotton. Prepare the trick by placing each box inside the other and all secured with rubber bands as shown in Fig. 2. The metal sleeve propping opens the inner box and protruding to the outside.

Hold the box in the hand with the sleeve hidden in the palm. Indicate how securely the rubber bands seal the box. Place it in your pocket, the sleeve in position. Borrow a sixpence from one of the audience and have it marked with a coloured crayon. Now produce the white handkerchief from your pocket, with a flourish. Place the marked coin in the centre and fold all corners to the

●Continued on page 172

# Christmas Tree Stand

**T**HERE is no need to feel apprehensive about your Christmas tree falling over if you use this adjustable stand (Fig. 1). It is much better than a flowerpot, and is not so unsightly as a tub.

The triangular pieces can be cut from the ends of a box, providing the wood is 3/4in. thick. If the tree is only a small one, 12in. lengths for the base may be sufficient (Fig. 2).

Four iron plates, 1/2in. wide, are

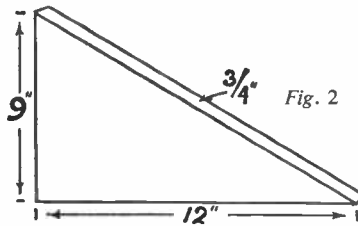


Fig. 2

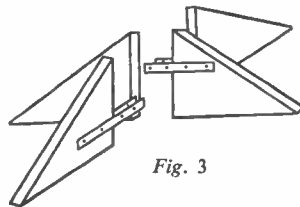


Fig. 3



Fig. 1

required. Screw two of them, a little more than half way up, on one of the triangular pieces. Place the tree between the iron plates, and secure it firmly by screwing on another triangle (Fig. 3).

Complete the stand by fixing two more triangles. Here again, screw two of the plates on first, underneath the two already attached. It is then easy to screw on the opposite triangle. (F.G.)

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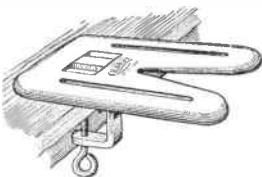
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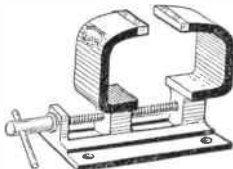
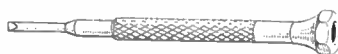
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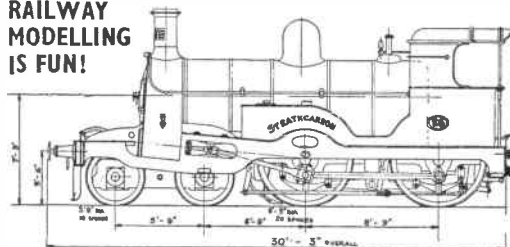
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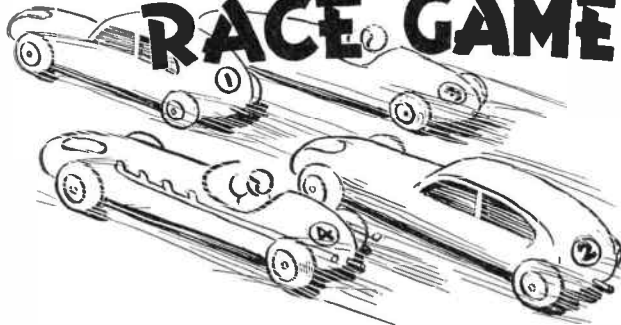
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outline shape and glued together. These pieces are then shaped and painted, any additions thought necessary being added.

Cut the wheels from  $\frac{1}{4}$  in. diameter round rod. Length of  $\frac{1}{2}$  in. should be sufficient. Cut with a tenon saw and round off. Drill holes in the centres and secure to the car by a fretpin.

In the back of each car insert a fretpin with the head cut off. This is the hook for the elastic propulsion.

## Patterns for making on page 175

Next come the launching ramps—one for each player. They consist of the two pieces (A) and (B) glued together with a shaped front as shown by the section. In each ramp insert a round-head screw where indicated on the small diagram. To this screw, tie an elastic band. The ramp should be given two or three coats of paint.

To launch a car, hook the elastic over the projecting pin at the back, draw the car back along the ramp and then release it. The car will shoot forward along the track. The ramp can be held still by placing the thumb and forefinger in the holes provided.

Make your own rules for the game. Score points for first past the post or try to shoot the cars through various size openings, awarding scores according to the size of the opening. The game can give lots of fun and excitement to three or four players. (M.P.)

Continued from page 170

## Tricks of Magic

centre. As you are talking slip the sixpence into your hand and unobtrusively transfer it to the inner box in your pocket via the metal sleeve. Pull the sleeve clear of the boxes and the elastic bands will assert themselves, sealing the boxes, the marked coin being safely inside.

The audience believe the sixpence is still in the handkerchief. With it folded and gripping the coin in the hem, give it to someone to hold. Ask if the coin can be felt. Then, with the magic words, snatch the handkerchief from their hands so that it flutters open—and the coin has disappeared. Hand the sealed box to one of the audience to unravel and transfer the handkerchief to your pocket. To everyone's amazement the marked coin is in the smallest box.

### Obedient Dice

This trick must be made with care. Take a cube of wood, the  $\frac{5}{32}$ nd bite is best to use, and drill a hole through it half from each side so that it is slightly bent in the centre (Fig. 3). Paint with white and black enamel as a dice. Thread 1yd. of rough sisal string through the dice and knot a small bead on the ends. If you have trouble in performance it can sometimes be improved by rolling  $\frac{1}{4}$  in. tape and using this instead of string.

Explain that this dice will obey the command to go or stop. Hold the ends of the cord in a vertical position, the dice at the top. Command the dice to move, slightly relax the tension of the cord and it will drop. Command it to stop, slightly tighten the cord, and it will stop. When it reaches the bottom reverse your hands and let one of the audience give the commands.

### Vanishing Coin

A simple trick to prepare. Use an ordinary glass tumbler, and a piece of brown paper cut to the same diameter as the rim. Stick this circle of paper to the

rim of the glass. Now take a sugar carton, cut both ends away to leave an open-ended tube. Paint the carton black and decorate with silver stars and crescents. When you perform this trick make sure that you have a large sheet of brown paper on the table.

Borrow a coin and explain that you can make it disappear. Throw the coin carelessly on to the paper. Hold up the carton for the audience to see through it push your wand inside to show there is no deception. Place the carton over the glass. By squeezing the sides slightly, lift both together and place over the coin. Tap the carton with your wand, remove the carton only and the coin has disappeared. To make it reappear, place the carton over the glass, give the magic word, but this time remove the glass with the carton.

## Attractive Candle Holders

**A**TTRACTIVE holders for Christmas candles can be made from firewood. Select pieces with the bark intact and fairly smooth. About 5 ins. square makes a good base for a single candle, while three candles would need at least 12 ins. by 5 ins., so that the base will be heavy enough to prevent an accidental tip-up. Bore the holes slightly undersize, and trim the candle ends to secure a tight fit.

Decorate the holders with frosting and holly, and put rubber or felt on the undersides to avoid damage to polished



surfaces when the holders are used for table decoration. (W.B.O.)

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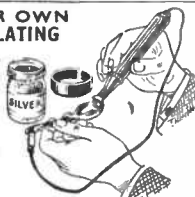
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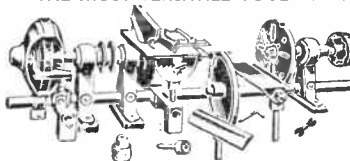
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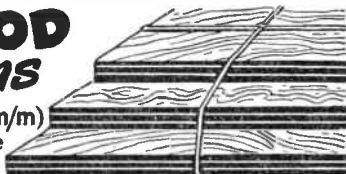
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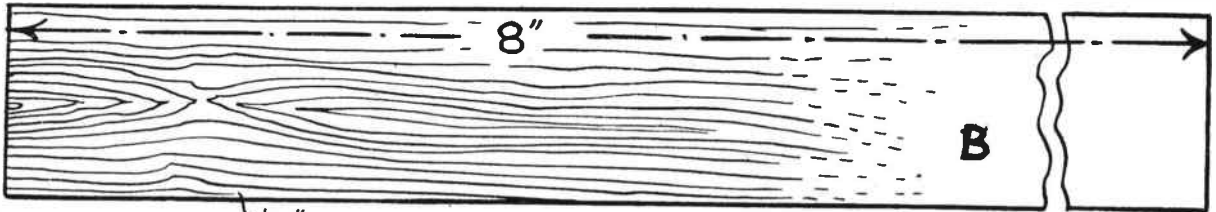
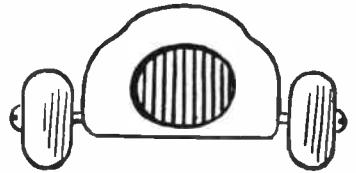
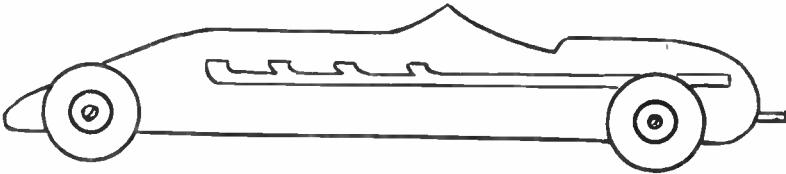
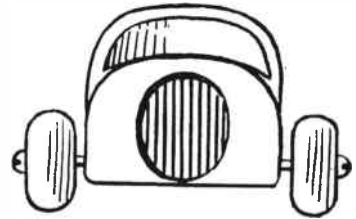
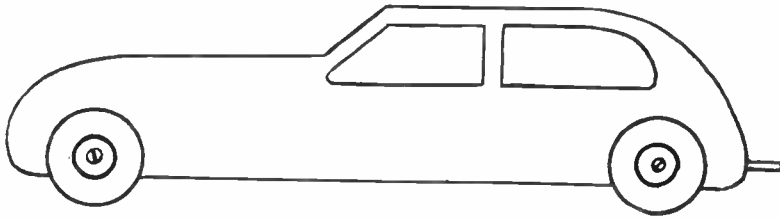
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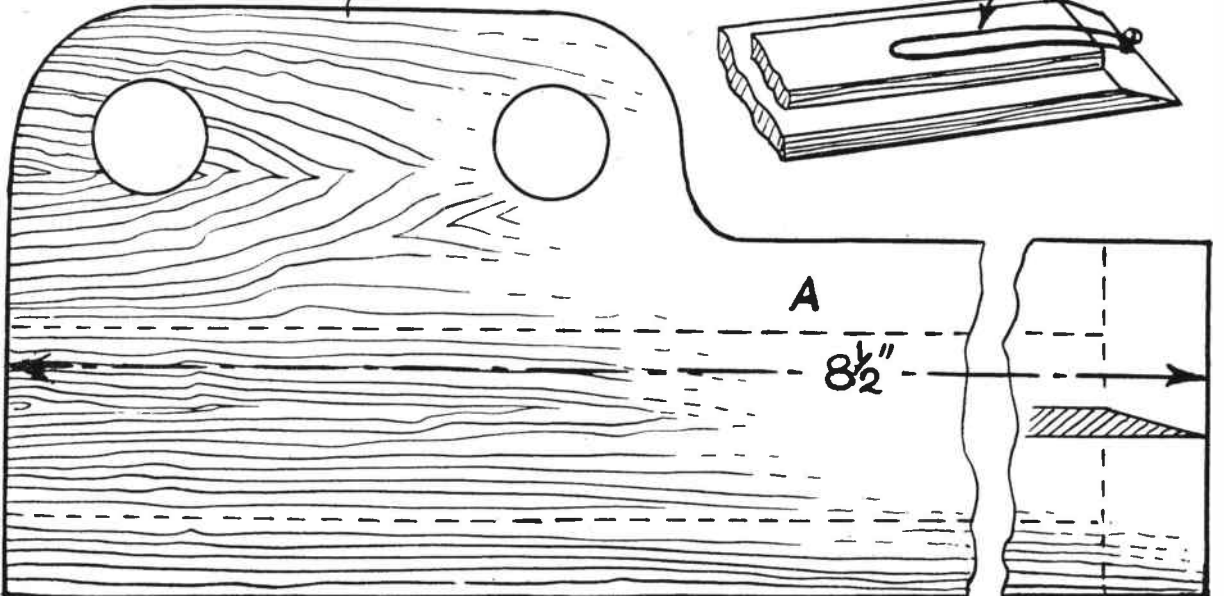
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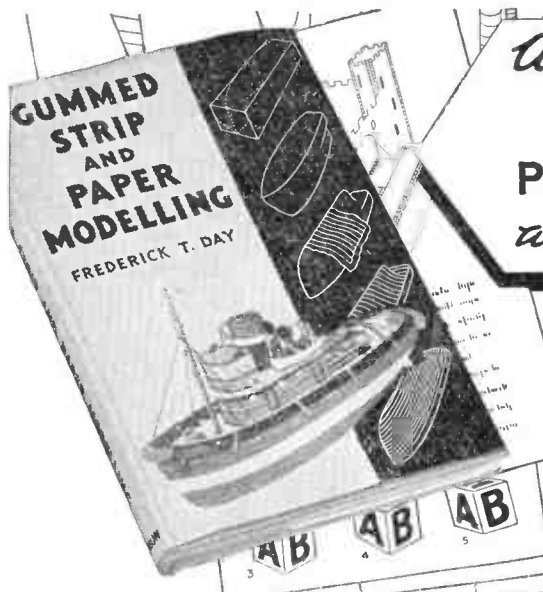
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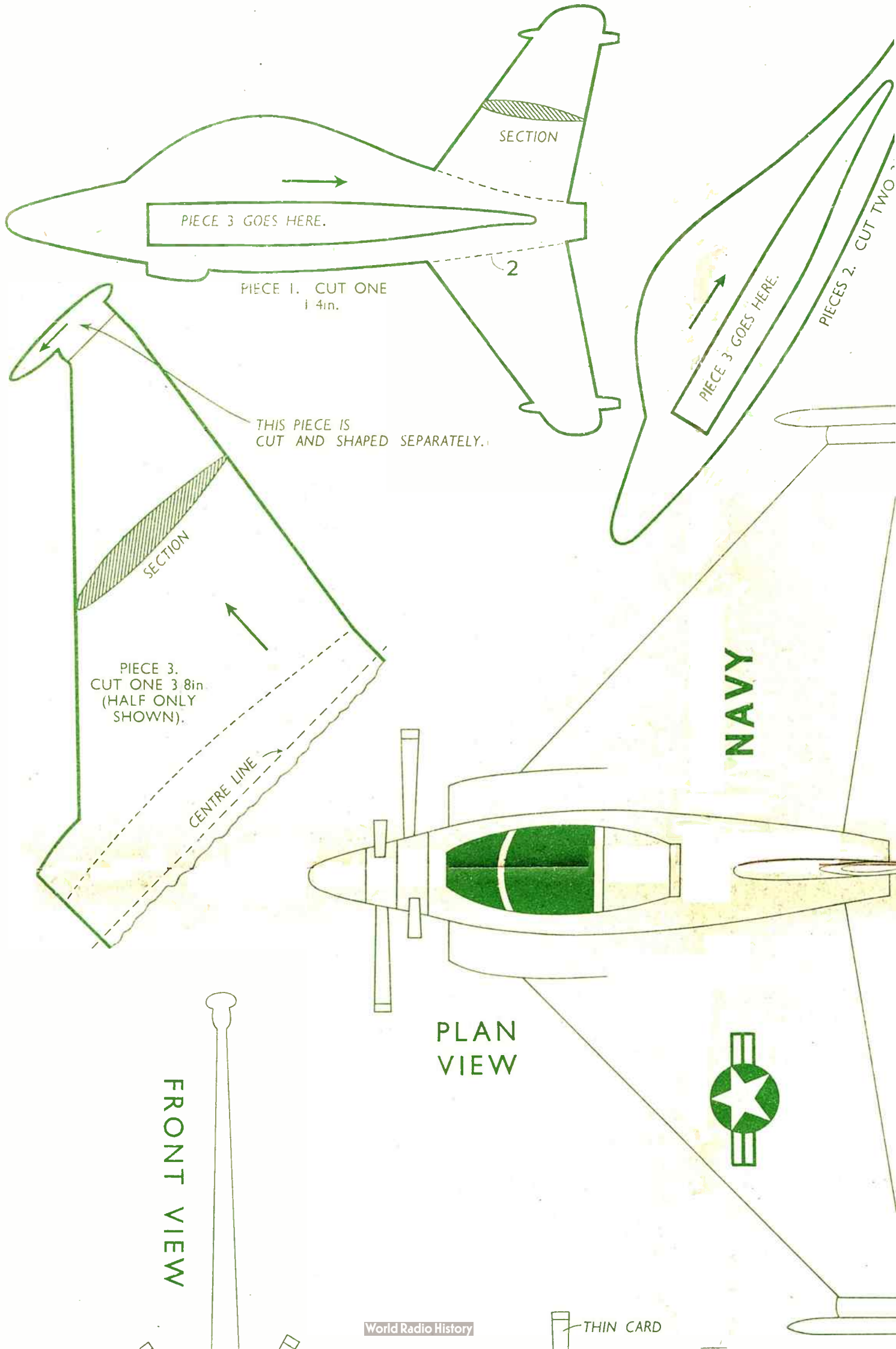
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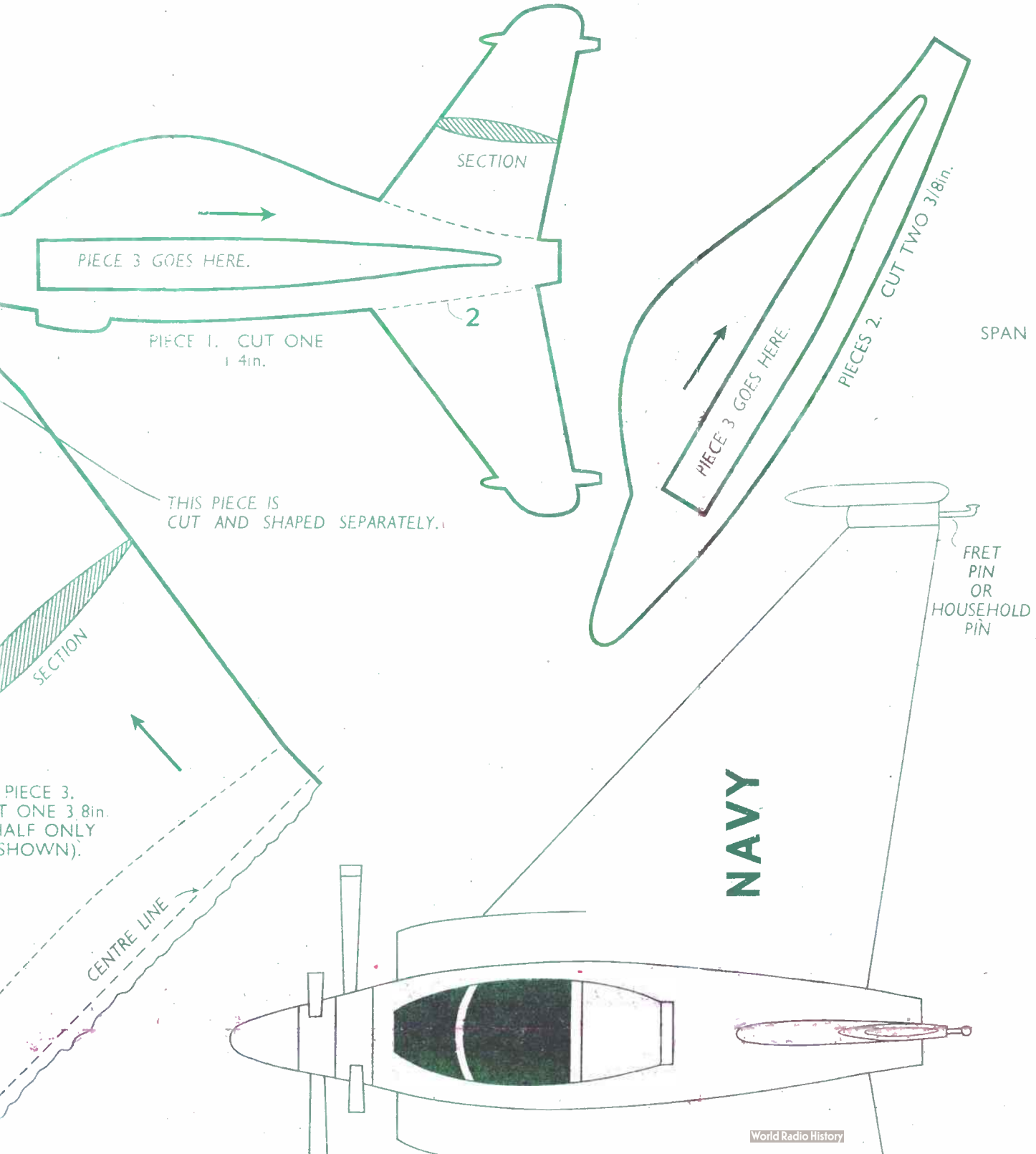
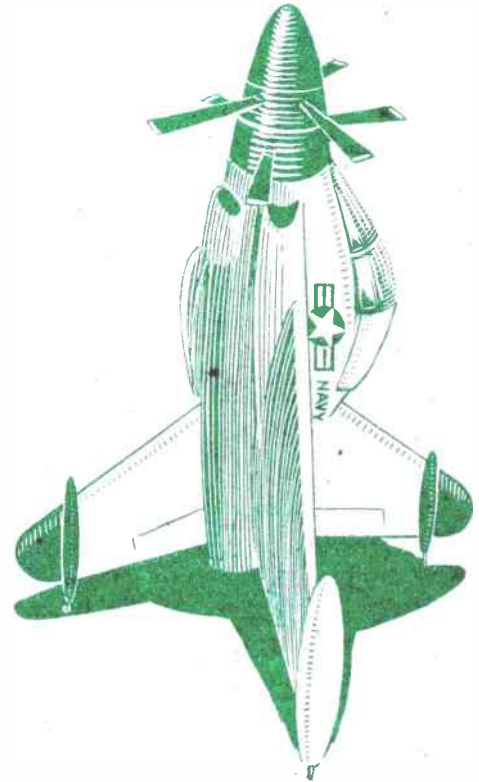
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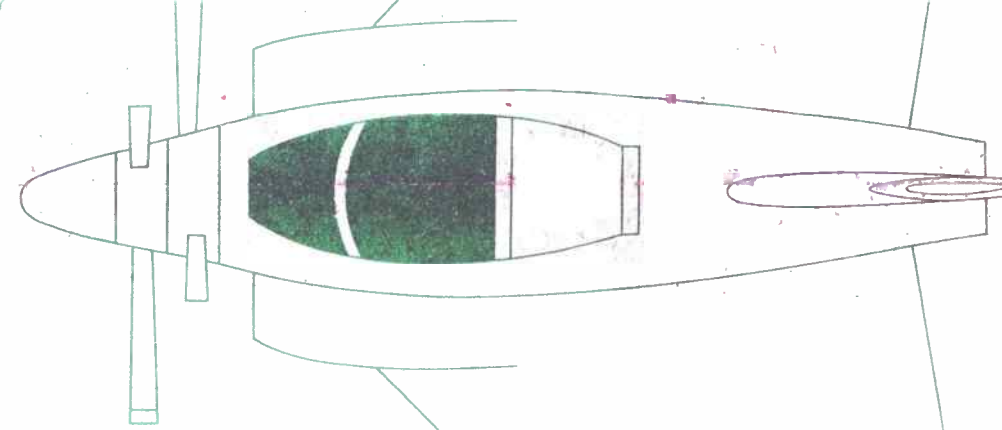
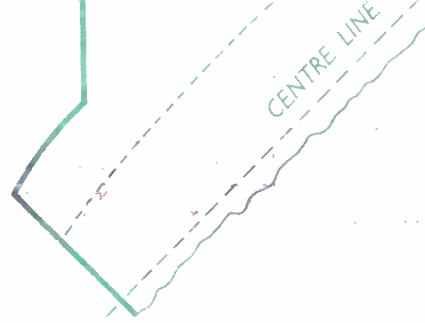
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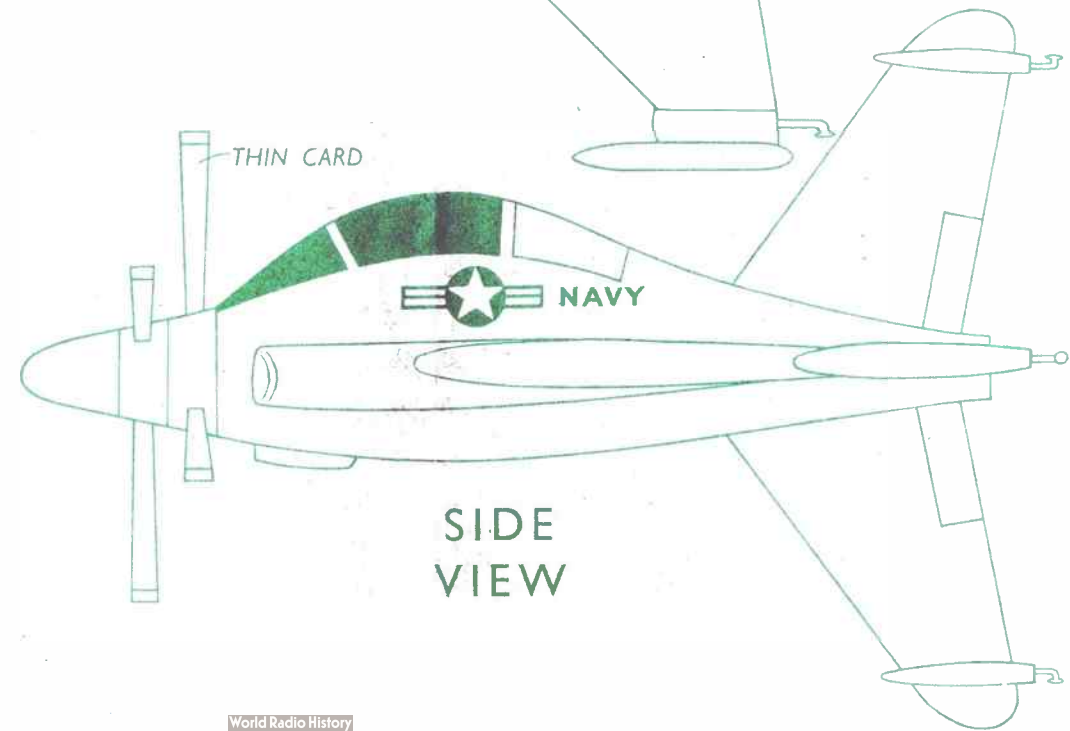
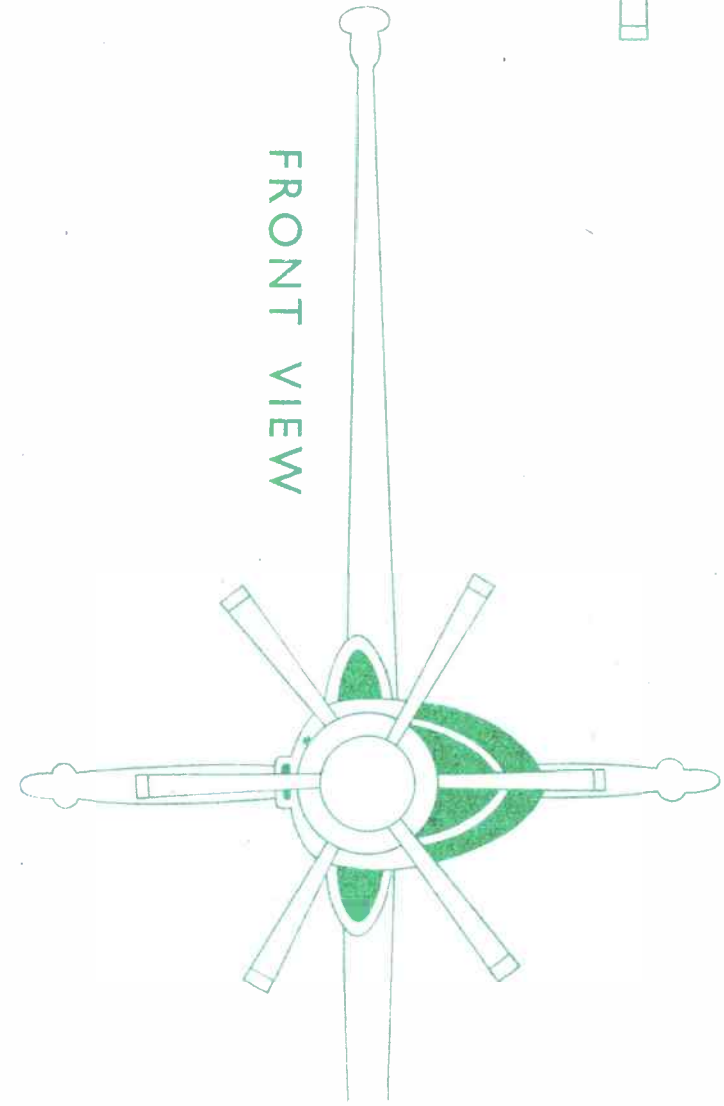
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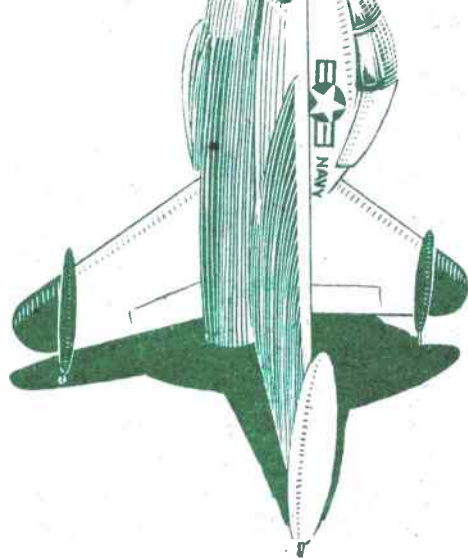
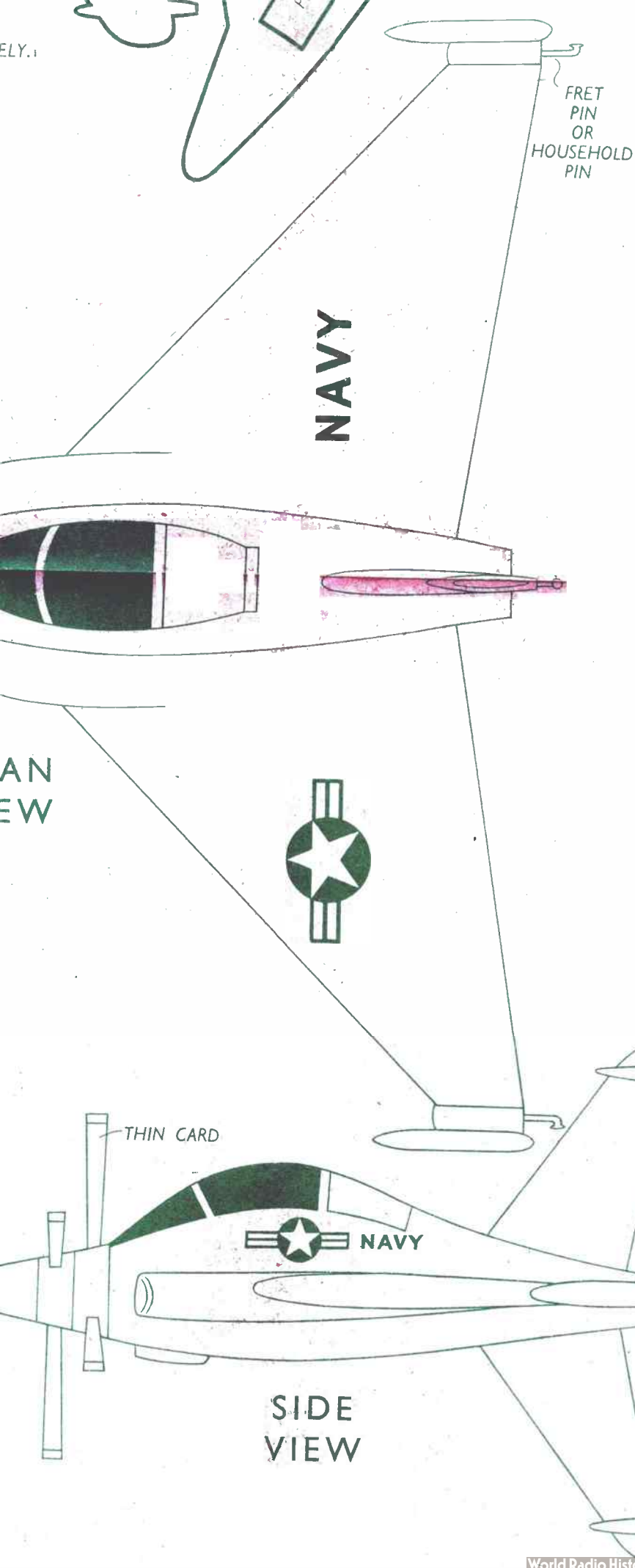
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