

Hobbies

WEEKLY

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May 25th, 1949

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A 50-EGG HOT-AIR INCUBATOR

READERS who are interested in the rearing of young chickens, may also be interested in hatching them from the egg in an incubator. The incubator illustrated is of a standard type on the hot air principle. In the opinion of many it is more easily constructed than the hot water kind, and so is chosen as the subject of this article.

Certain fittings may have to be purchased, such as the lamp and heater, and the patent capsule which regulates the heat, but the remainder can well be made by the amateur himself. At Fig. 1 is a front sectional view, with a side sectional view at Fig. 2. From these diagrams the general working parts can be understood.

General Case Work

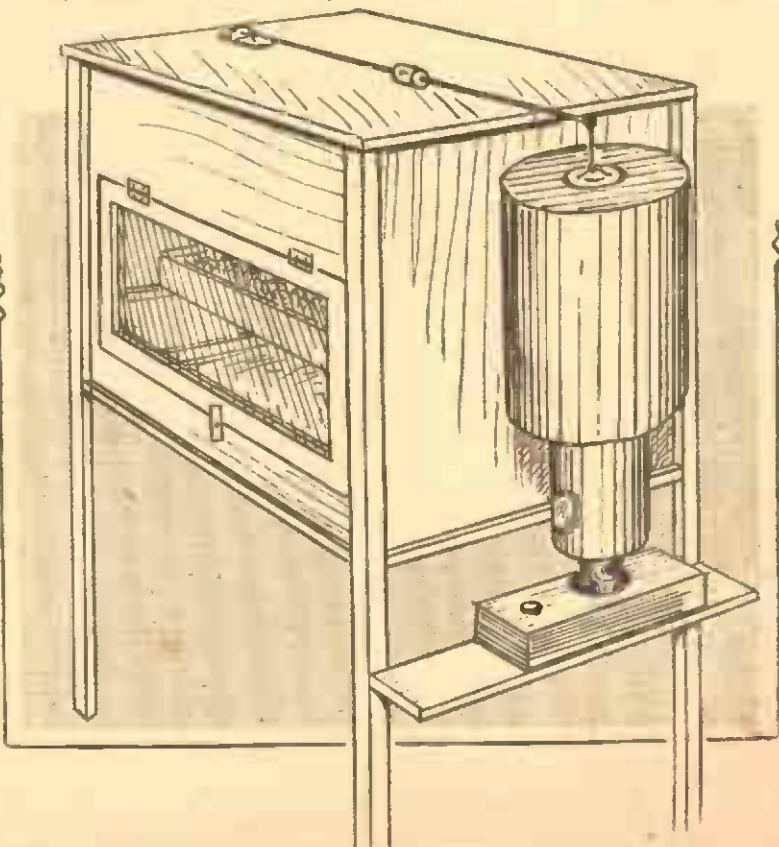
First make a case to the dimensions given in Fig. 3 from $\frac{3}{4}$ in. thick wood, for which matchboarding would serve. It is quite a simple affair, with the joints nailed firmly. In each corner nail $\frac{3}{4}$ in. square strips of wood, as shown in the diagram.

These can readily be cut from a $\frac{3}{4}$ in. thick piece of deal board, and need not be planed except those parts on view in the front opening. Some additional pieces of wood of the same thickness are now to be added, but as the position of these varies with each side of the case, each side will be dealt with separately.

Fig. 4 shows three of these sides. At the front side, E, at the bottom, fix a piece 2ins. wide across, and a

second piece, 1in. wide, above it, leaving an opening between, 7ins. across, for the door. At the top a

shorter piece, some 6ins. long is fitted. At the rear side, not illustrated, two of these shorter pieces



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only are needed, one at the top and one at the bottom.

Over these nail a piece of three-ply, the full inside dimensions of the case, thus making a double thickness of the back, with a $\frac{1}{2}$ in. space in between. Cut a second piece of three-ply for the front. In this saw out an opening 7 ins. wide and 1 ft. $6\frac{1}{2}$ ins. long, to coincide with the door opening already there, and nail in place.

Strips and Fillets

In each corner of the case nail $\frac{1}{4}$ in. thick strips of the $\frac{3}{4}$ in. board. The sides, also of plywood, are to be nailed to these, as in detail, F, when the additional pieces of wood, now to be detailed, are in place. These, for the left-hand side, are shown at G, and include a short strip at the top, say, 4 ins. long, and a centre vertical

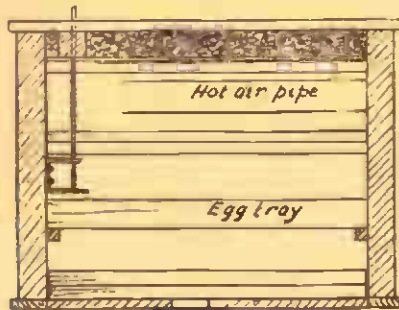


Fig. 1—Front sectional view

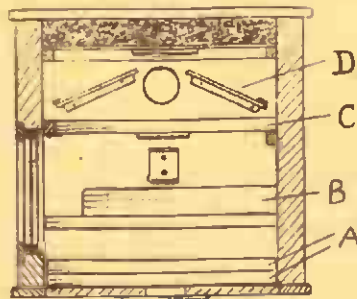


Fig. 2—Side sectional view

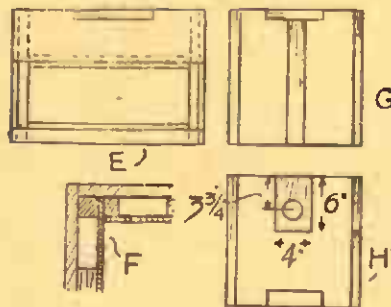


Fig. 4—Details of side pieces

strip 2 ins. wide. For the right-hand side, H, a 4 in. strip is nailed at the bottom, and at the top, central, a 4 in. by 6 in. block, as shown.

Draw a centre line down this block, and at $3\frac{1}{2}$ ins. from the top, cut out a hole $2\frac{1}{2}$ ins. diameter, both through the block and case. Three-ply linings are now cut and fitted each side, being nailed to the corner strips and block, etc. In that for the right-hand side, continue the $2\frac{1}{2}$ in. hole right through it. This hole is for the hot air pipe.

At this stage it will be convenient to fix some wood fillets across on the inside to support the egg tray and upper diaphragms, seen in Figs. 1 and 2 and lettered, B and C, in the latter diagram.

For the fillets, prepare some strips of wood $\frac{1}{4}$ in. by $\frac{3}{4}$ in., and nail one across each side for the egg tray, just 4 ins. above the bottom. For the

upper diaphragm, nail a fillet across the back of the case $8\frac{1}{2}$ ins. from the bottom, with a second fillet across the front of the case $9\frac{1}{2}$ ins. from the bottom.

Now prepare the bottom of the case itself. A plan view is shown in Fig. 5, consisting of a frame, with a centre to open as a door. Both can be made from the $\frac{3}{4}$ in. thick wood as used for the case. Make the frame of four strips of the wood $1\frac{1}{2}$ ins. wide. Nail these to the bottoms of the four sides of the case, just level with the inside plywood linings, and extending beyond the sides about $\frac{1}{2}$ in., a trifle more or less, perhaps, depending upon the thickness of the plywood. This will leave the bottom open, and a door should be made to fit to cover it entirely.

It will be as well to nail strips

across each end, on the outside, to prevent this door from warping. In the centre bore a 3 in. diameter hole for ventilation, which should be covered on the inside with a piece of wire gauze to prevent insects entering the incubator.

Cover the hole on the outside with a piece of plywood, as in the diagram, fitted on with a single screw, so that it can be swung aside to regulate the current of air entering. Fit the door to open with a pair of hinges, and add a couple of turn buttons to keep it closed.

Hot-Air Pipe

The hot-air pipe is a 15 in. length of 2 in. diameter tin tubing, with a flange of tin, about 3 ins. square soldered at $1\frac{1}{2}$ ins. from the right-hand end, as at I, in Fig. 6. Punch screw holes in the flange and fix the pipe in place, interposing a piece of asbestos cloth between the flange and side of the incubator. At the opposite side of the incubator nail a 3 in. square of tin opposite the outlet hole of the pipe as a protection for the wood against the current of hot air.

Each side of the pipe has to be fitted with deflectors, as shown at D, in Fig. 2. These are pieces of strawboard $5\frac{1}{2}$ ins. wide and the full inside length of the case. The edges of the deflectors, next to the pipe, are protected with strips of tin, cut $1\frac{1}{2}$ ins. wide and bent over the edges with $1\frac{1}{2}$ in. of the tin underneath. Stiffen the opposite edges of the

deflectors with a strip of fillet, nailed along. Fix them close to the pipe and sloping downwards, as shown, by nailing them to pieces of the fillet fixed to the sides of the case. The top edges should be 3 ins. down inside the case, from the top, and slope to 5 ins. down. The regulating arrangement for controlling the heat can now be attended to.

Get a piece of wrought iron or mild steel, $\frac{1}{4}$ in. thick and dimensions given at J, in Fig. 6. Divide into three equal parts and scribe a line down the centre. In the top part drill a $\frac{1}{4}$ in. hole where shown, and in the bottom part a hole large enough to admit the pin of a patent capsule. In the centre part drill a couple of holes for fixing screws.

The whole is then bent across the dotted lines, the top and bottom

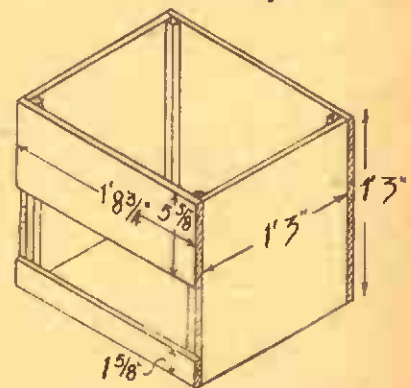


Fig. 3—Construction of case

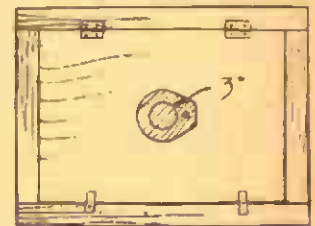


Fig. 5—Plan view of case bottom

parts at right angles to the centre part. It is screwed inside the case at 2 ins. above the fillet, on which the egg tray will rest. It can be seen in Figs. 1 and 2. In the hole in the top part a length of $\frac{1}{4}$ in. steel rod is dropped, and see the rod is an easy fit in the hole. The length of the rod is to be determined later.

At a distance from the top of the incubator of $1\frac{1}{2}$ ins., nail wood fillets round. Cut a piece of strawboard to fit the interior of the incubator, and down the centre of it, lengthwise, nail a strip of plywood, 3 ins. wide. Over this nail a piece of tin the same size.

This is dropped in place, tin downwards, and rests upon the fillets. Measure off the exact spot where the steel rod of the regulator would come, and bore a $\frac{1}{4}$ in. hole through to admit it. Over this hole nail a block of wood, $1\frac{1}{2}$ ins. thick and about the same square, then continue the hole through the block.

(To be concluded)

Patterns and particulars for making realistic model STAGE COACH HORSES



Full size patterns for each part on page 95

the same time. The pattern gives the outline for two horses, and these patterns in turn have to be split into two parts each. The way to do

ONE of the most popular designs we have published in recent years is that of the Model Stage Coach (Design No. 236 Special), and these have been made not only for normal admiration in the home, but also for public exhibition and competition all over the country. The model, as you see here, is a realistic one of the old stage coach which used to ply between Holyhead, Chester and London, and lends itself to a romantic background.

It is not too difficult to complete from the full-size patterns provided, and is finished in colourful paint which makes a very attractive piece of work. Many readers have desired to complete the whole thing by the addition of horses, and we have frequently been able to help them in this respect by supplying some details.

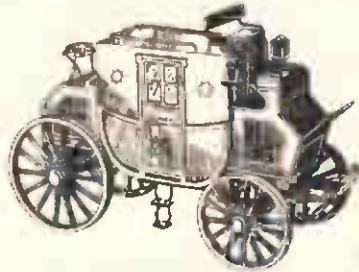
Full Size Patterns

Knowing that many more will be equally interested in finishing the model off with the animals, we are giving on page 95 full-size patterns for the parts concerned. The horses can be made in pairs, and linked by the traces, yokes and bars mentioned with the design. The cutting of the patterns for the horses is done with the fretsaw, and wood at least $\frac{3}{8}$ in. thick should be used.

Each horse is cut actually in two parts, because, obviously, all four feet cannot be in the same position at

this is quite simple if you follow the diagrams here and the patterns on the sheet. In any case, it is not advisable to paste the patterns down, because they will only have to be glass-papered off afterwards.

Of each horse shown, you will require two patterns. Trace the outline of each of these two portions according to the lettered diagrams below at A and B. These two pieces



The Model from our Design

are then cut with the fretsaw from, say, $\frac{3}{8}$ in. wood. Glue the two pieces, A, together, and you have a rough outline of the running horse.

Tools for Shaping

The two parts of the horse, B, are treated in the same way, so you have in each case an animal in wood, $\frac{3}{8}$ in. thick. This allows sufficient for shaping and carving, and the shading on the pattern will give a good idea how this can be done.

You can probably do it with a sharp penknife or a rasp and file, finishing

with glasspaper. The legs, of course, will have to be rounded also, but the saddle, collar, bridle, etc., can be painted on later. The rounded portion of the collar can, if you wish, be left as part of the carved wood.

Carved Finish

Take as much care as possible in this carving effect, to get a nicely rounded body and the natural curves of the animal. Study pictures of horses to get more detail if you require it, but if you are not certain of getting everything correct, then it is best to leave a roughly carved outline which is obviously not intended to be strictly accurate. This gives a better effect than getting the wrong shapes beautifully done.

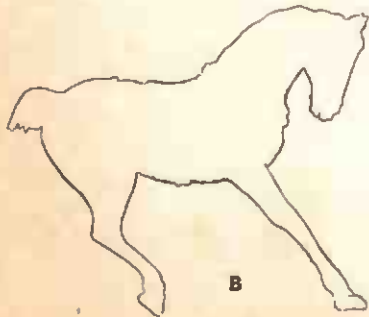
The finished wood should be stained and lightly polished to bring it down the semi-glossy brown or chestnut, or whatever colour you propose to have the horses. You may prefer to have them painted, although this, of course, provides a very bright glossy surface which is not really correct with the actual animal.

Harness

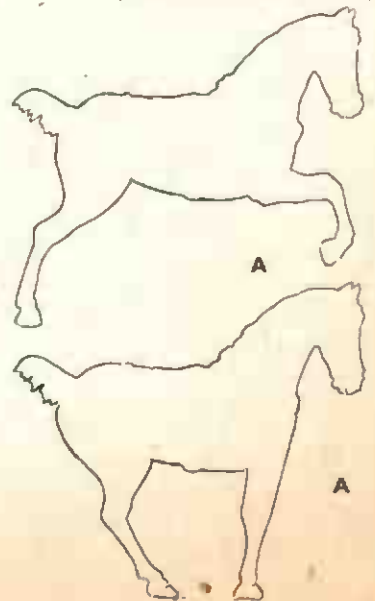
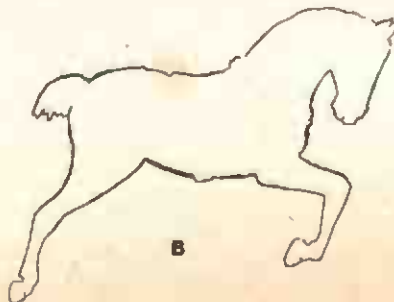
The harness, etc., as before mentioned, is painted on and can be black or brown, with brass buckling, etc. Lead the traces to the points shown and, of course, remember to keep the bottom edge of each hoof flat, so the horses can stand fairly rigidly.

If you have not done any of this carving before, you may feel very

(Continued foot of page 88)



These two parts go to form one complete horse when shaped



These are the outlines for the other horse

Another simple job for the metalworker is to make this METAL ASHTRAY

THIS attractive all-metal ash-stand is both useful and decorative, but is quite easy to construct. As it is, naturally, an article that is bound to be on show, the chief requirement is that of neatness, and it might be regarded as a test in careful soldering.

It consists of four main components, the actual box or body, the cigarette rest, the supporting feet, and the corner pieces, designed to act as match containers.

The Body

From a piece of light clean material, cut out the body pattern to the sizes indicated in the diagram, being careful to cut all edges perfectly straight. These must afterwards be filed and emiered until quite smooth.

Fold into box shape, bending up three of the sides on the bending blocks and the fourth on the end of a piece of iron or wood clamped to the bench. Press corners together and after tacking, solder neatly down inside, letting the solder permeate to the outside of the joint.

To make the cigarette rest, you first require a piece of straight wood,

Alternatively, of course, you can, if you wish, put in the grooves with the aid of a small round file.

Having made your block, cut a strip of light material 4ins. by 1in. and clamp to block, using one clamp only, in the middle. Rest your piece of round iron on the metal, immediately over one of the grooves and tap smartly with a hammer to sink down metal to bottom of the groove.

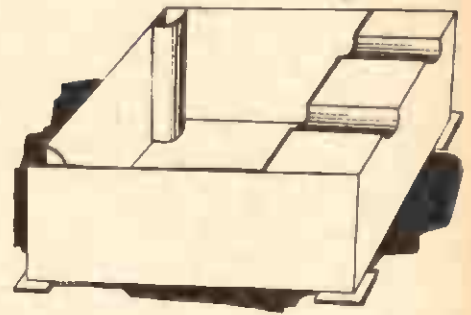
Treat the other groove in a similar manner. You will find that the ends of the strip have bent upwards during the operation but can be easily straightened with the fingers after the clamp has been removed.

Strip Piece

The next job is to cut the strip to the required length. This could not have been done in the first place owing to the difficulty of forecasting accurately the reduction in the length during the sinking of the grooves.

Keeping the grooves central, cut the strip down to 3ins. in length and then knock

over $\frac{1}{4}$ in. at each end, downwards at right angles. If you have been careful with your measurements,



Having got all edges flush, solder right round, again, letting solder flow well into the joint.

For the feet, from fairly thick material, cut out four $\frac{3}{16}$ in. squares and clean with emery. Turn the box upside down and solder the pieces in position, with a $\frac{3}{16}$ in. overlap, as shown. In the interests of neatness do not solder outside, only on the bottom.

Corner Pieces

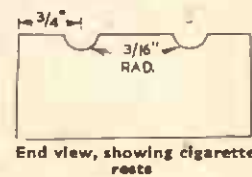
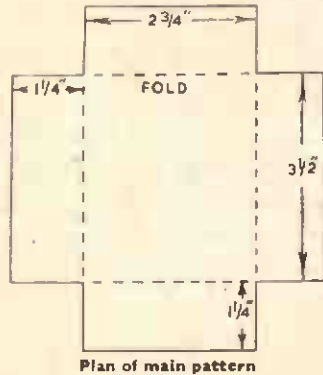
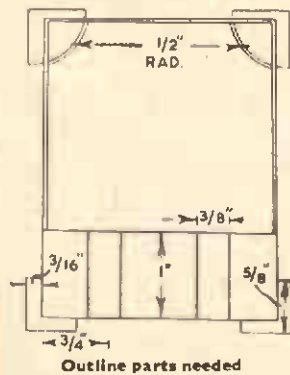
For the corner piece match holders cut two pieces of metal $1\frac{1}{2}$ ins. by $\frac{3}{4}$ in. and bend to the correct radius round your piece of round iron. Place in position, equally across the inside of the corners and solder neatly down each edge. Should the piece protrude above top of box, then file level.

To Finish

To finish, file and emery off every particle of solder, except a thin line of metal along each joint.

The ash-stand's usefulness can be augmented by the addition of a neat strip of glasspaper, glued to one end, on which to strike the matches. An attractive finish can be achieved by enamelling in a two-colour scheme, black inside, and cream outside.

The attractiveness of the article, will, of course, be largely made by the standard of painting effected. Lay the enamel on carefully, see it does not run, and take note that no extra thickness bulges round the actual edges of the metal. It is a good plan to make a trial on some waste metal.



approximately 4ins. by $1\frac{1}{2}$ ins. square. On it mark two pencil lines $1\frac{1}{2}$ ins. apart and at an equal distance from the ends. Next, get a piece of $\frac{3}{16}$ in. round iron (a poker will do) and heat well in a bright fire. When red-hot, lay along pencil lines to burn in semi-circular grooves $\frac{3}{16}$ in. deep.

this portion of the job should be a perfect fit in its position on the box.

Place in position inside one end of the box and level with the top edge, and tack in three or four places. Before soldering round, file grooves in the end of the box to correspond with those on the cigarette rest.

Horses (Continued from page 87)

dissatisfied with your first result. It may not be due to your inexperience, however, because after all, an animal such as this is not one of the easiest to shape up correctly. You could make a trial first on some waste wood, to get the hang of the carving tool. Remember to take a little away at a time, gradually whittling the shape down to what you need, rather than taking off a huge slice and

probably going too far in the effort.

Another suggestion is that if you do not feel confident to undertake this model itself, you have probably some friend who is in a better position to complete it satisfactorily for you. There are various people at Handicraft Centres or Manual Centres who would be pleased to undertake it for you, and regard it as helpful experience and happy craftsmanship to

be able to do so. The effort entailed in making these horses is certainly worth while, because it does really add a final touch of realism to the model which you have made.

Remember, as a last point, to have the baseboard of the coach extended so that the horses can stand upon that, too. This also gives you the opportunity of gluing them down to the base for final exhibition.

A few odds and ends can be turned into a satisfactory ROTARY DUPLICATOR

If you belong to a club, or are a Scout or a Guide, you will find a rotary duplicator a very good friend, indeed, for printing such things as programmes, handbills and the like. Also any shopkeeper or businessman will be delighted with this machine, for it will save him a great deal of time with his advertising schemes and office work generally. Apart from the cost of the stencils and duplicator ink, there need be no other great expense.

Stencil Roller

The most important job is making the stencil roller. The writer made use of a 7lb. paint tin, but any well-made tin not less than 8ins. tall and 3½ins. in diameter would serve our purpose. Stencils of what is called "quarto" size measure approximately 10ins. by 8ins., but they can be

sorbent material, such as felt or baize, to take the duplicating ink. The best plan is to glue it around the roller, being sure to see it lies perfectly flat and smooth.

The stencil roller bears down on what is termed a pressure roller. When the duplicator is in action it is the pressure roller which presses the paper against the inked stencil, thus making the impression.

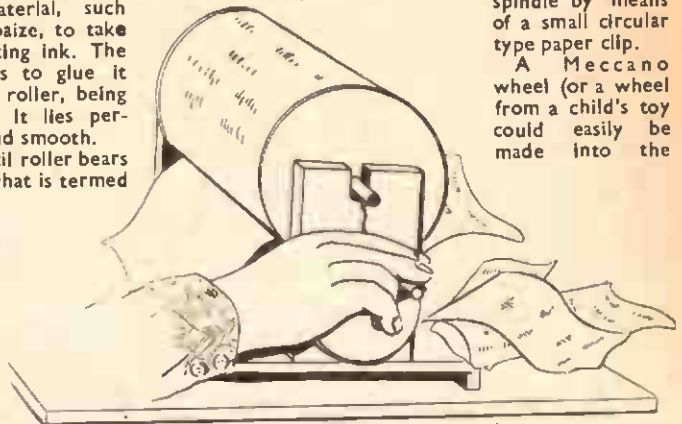


Fig. 1—The completed Duplicator In action

spindle by means of a small circular type paper clip.

A Meccano wheel (or a wheel from a child's toy could easily be made into the

hand-wheel for turning the pressure roller.

Having typed the stencil sheet, ink the padding of the stencil roller and then drape the stencil itself over the inked padding. The two ends of the stencil should be secured with strips of gummed paper.

By the way, when inking the stencil roller, insert a piece of paper between

A piece of broom handle, a trifle shorter in length than the stencil roller, is ideal for the stencil roller. As you see in Fig. 2, this roller should be padded with felt or baize, in order to provide a firm and even pressure.

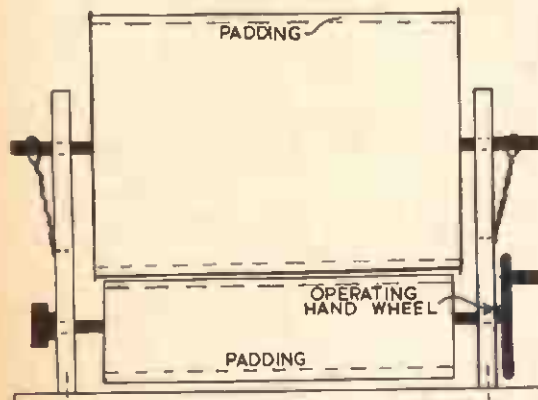


Fig. 2—Showing arrangement of stencil and pressure rollers

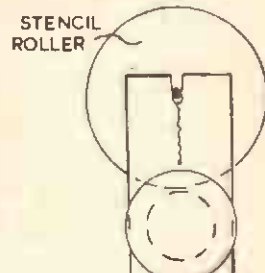


Fig. 3—Side view of baseboard and roller supports

trimmed down to suit requirements. If you can find a length of wooden roller (such as part of a mangle roller, for example), so much the better—provided it is perfectly round and has a smooth surface. Wrap round it some soft ab-

Fig. 2 and 3 show you how to make the wooden framework and how to assemble the various components. Suggested measurements for the baseboard are 10ins. wide and 18ins. long. The two upright strips for holding the rollers in position should be about 6ins. high and 2ins. wide. A slot should be cut at the top of each strip to take the spindle of the stencil roller.

In order that the stencil roller shall bear down firmly on to the pressure roller, two elastic bands (or small coil springs) should be fitted, as seen in Fig. 2. The elastic band is attached to the

the stencil and bearing rollers so the latter does not become inked.

Trial Run

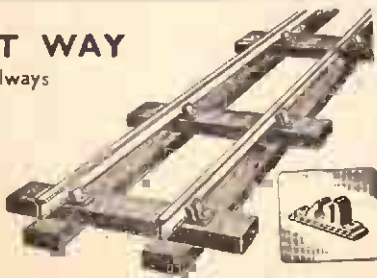
Now for a trial impression. Common faults are of having too much ink, or unevenness in the padding of the rollers. It is also important that the elastic bands (or coil springs) are bearing the stencil roller firmly down on to the pressure roller.

When you have corrected any faults and mastered the art of applying the right amount of ink, you should be able to turn out your printed copies at the rate of ten or twelve a minute.

You cannot expect the machine to be perfect the first time you run it—no machine ever is. A little adjustment here and there, however, will soon produce the result you desire, and you will then get use to changing your stencil and running off your copies at a reasonably fast rate.

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The home carpenter can easily make A HANDY COAL BOX

THIS article of furniture can well be made by any handy woodworker having a few feet of timber available. It differs little from the conventional design of coal box, as long experience has shown its utility and nothing to beat it has yet made its appearance.

Of course, there are those of the cauldron type, and nice they look, but their shape practically prohibits the use of a shovel and limits one to the tongs, so that one lump only can be picked out at a time instead of several, as with the shovel.

Suitable Wood

For making the coal box, wood some $\frac{3}{4}$ in. to $\frac{7}{8}$ in. will suit. Those lucky enough to own some hardwood of the right thickness can, of course, make an attractive piece of furniture, but even common deal can be utilized and if stained or painted, can be sure of at least a presentable article. Finish will make a lot of difference when soft woods have to be employed.

A side section is given in Fig. 1, and a front elevation in Fig. 2, with some useful dimensions. These are by no means imperative, however, and those wishing to construct a more commodious box can easily add a few inches, both to height and depth, preferably the latter, should they wish.

Getting out the sides of the box is a simple matter if a 12 in. square is drawn first, and then from a point 3 ins. from the right hand corner and 2 ins. from the left hand bottom corner, a line is drawn. Owing to the width two boards will, most probably, have to be glued together and doweled.

Top and Bottom

The top and bottom of the box should be cut large enough to extend beyond both sides and front $\frac{1}{2}$ in. In these, cut housings $\frac{1}{4}$ in. deep for the sides to rest in, and a rebate, the same depth, for the back. These housings can be easily sawn and chiselled out, as they extend from

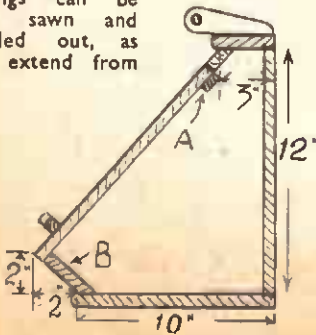
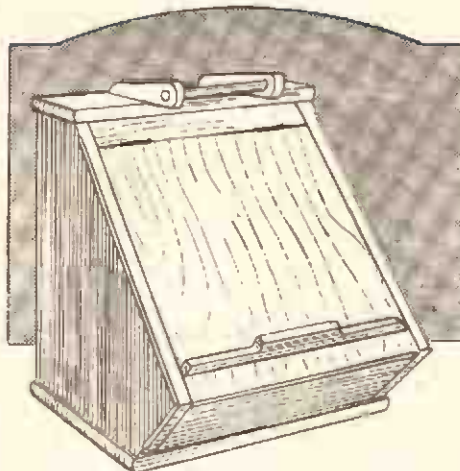


Fig. 1—Side section of frame



front to back. The detail sketch, showing how the top piece is so treated will explain both at Fig. 3.

Make these housings a close and neat fit. The rebate will, of course, be cut to suit the thickness of wood to be used for the back. With enough wood to spare this back can be cut from the same thickness board as the rest, in any case it must not be of thin flimsy material, or it will soon break.

Now cut the strip, B, measuring the width from one of the actual side pieces. It is suitably bevelled to sit flat on the bottom of the box and comes short of the front sloping edges by the thickness of wood used for the lid, which rests upon it.

Assembly

The parts can now be assembled together, with glue and nails for all parts except the bottom, which is better screwed on. Use oval nails for fixing, and punch down slightly below the surface of the wood for subsequent stopping.

At this stage the work should receive a good thorough glass-papering, and the overhanging edges of both the top and bottom of the box should be slightly rounded off, a

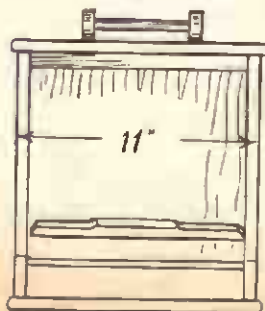


Fig. 2—Front elevation

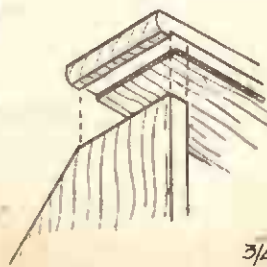


Fig. 3—How top is fitted

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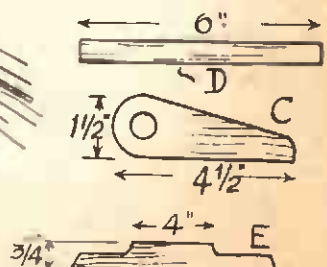


Fig. 4—Stiffener and handle parts

job easily done with a woodworker's file. It adds greatly to the appearance of the finished article if the outer edges of the sloping parts of the box sides are stop chamfered, as shown in the finished view.

The Lid

The lid can be cut from similar board to the sides, glued and doweled together. Before measuring off its dimensions, cut a 2 in. wide strip of the wood and nail across the box, just below the top. To this strip the lid will be subsequently hinged.

Having measured off the space to be covered with the lid, prepare the latter to size and fit. At the top of it, just inside, glue a 1 in. strip of wood across, as at, A, in Fig. 1, to prevent warping. A similar preventive is glued across at the bottom of the lid, outside. This latter part is a strip of wood shaped up as at, E, in Fig. 4 and serves, also, as a handle for lifting the lid up for filling, etc. Now hinge the lid with a pair of strong butt hinges.

Top Handle

At the top of the box, a second handle is to be fitted, for lifting up the box when it is necessary to carry it to the coal cupboard for refilling. A sound substantial handle is necessary here, the parts for which are drawn in Fig. 4, C, being the side pieces and, D, the bar across.

Cut these side pieces to the shape given and bore $\frac{1}{4}$ in. holes for the bar, which is a piece of round wood rod. The parts, C, are screwed to the top of the box, just 6 ins. apart, overall measurement, and the round bar glued across, in the holes.

Two screws at least will be necessary to each side piece, and these should, preferably, be driven in through the top, underneath. It will be more convenient if these are fitted to the tops before the door and its hinge bar are fixed on.

No inside metal lining need be provided, as the box will stand a fair amount of wear without it. The finish of the completed article can be carried out either with stain and

Here are some helpful hints to remember about YOUR HEALTH IN CAMP

WITH the summer holidays many of you will doubtless be going to camp for a fortnight or so. Some will go to an organised camp, perhaps, with Scouts or a similar body, or in connection with some holiday association or holiday camp where you are well looked after in every way. There are others, however, who prefer their own arrangements and it is to these that this short article is directed.

No Risks

Each year a number of campers have their holiday spoiled to some extent by developing an unexpected minor ailment, and in consequence being "off-colour" for a few days instead of feeling "top of the world" as campers should.

We are apt to overlook the fact that life under canvas is a big change from our usual everyday carry-on in rooms that are heated, more or less, and where we are not exposed to damp, and winds that blow from all quarters.

Many campers take unnecessary risks. It is a grand thing to be hardy, but hardihood should be acquired gradually. Therefore, be prepared to have a spell of "physical jerks" every morning, with plenty of exercise during the day as well. Do not just loaf around camp all the time. Take long walks, go swimming if you can, give the farmer an hour's help in the field, if he needs it.

Avoid Colds

Catching cold is very often one of the troubles of the beginner to camping, especially if the weather

turns cool and damp. But if you take sensible precautions—not coddle, mind you—there is no reason why you should not keep free from chills and colds. It is merely a matter of recognising that outdoor conditions are different from home life.

Some years cold, wet conditions mar our holiday. We return to our homes and lo! the sun shines again! The English climate can be draughty and damp even in mid-summer, and it is advisable to take care of yourself, without being a "molly-coddle".

Cold Precautions

There are simple precautions against catching cold. In the first place, be sure your tent is waterproof. Use a good groundsheet when sleeping on the turf. Wear wool underclothes; cold will not hurt you much if you wear wool next your skin. If you do get soaked and lack a change of clothes, you will find that if you wring out your undervest and shirt, wool that has been well wrung never strikes cold like cotton garments do, to your body.

Be sure the tent is pitched on dry ground, and not too near the margin of river or lake. Never camp by the shores of a low-lying pond or mere.

If you should fall into the river or get caught out in a heavy rainstorm do not sit about in your wet clothes. It may appear hardy to do so, but it is more like "foolhardy". Strip and rub down, and put on dry clothes, if you have a change with you—and it is very advisable to take a complete change of clothes when camping for any length of time.

Drying Boots

If you lack such a change, slip into your blankets or sleeping-bag whilst a chum gets the fire going and dries out your wet togs for you. Hang your boots—or shoes—upside down on a stick pushed into the ground and dry them out. Stuff folded newspaper inside them; this helps to soak up the wet.

Do not lay your clothes on the turf floor of your tent when you retire for the night; damp rises from the ground. Have a ring of pegs on the tent pole and hang them up. Or keep them on top of your bed. Keep boots and stockings off the turf at night. All these are simple precautions but they may prevent you catching a cold. Prevention is better than cure, you know.

Gradual Cooling

Another thing, if you have become thoroughly heated and warmed by violent exercise, do not throw yourself down on damp grass under



A Handy Home-made Scissor-Sharpener

TO be able to sharpen a pair of scissors well is quite an accomplishment and it is surprising how few people can really do the job satisfactorily. As with other cutting instruments, such as planes and chisels, it is necessary to sharpen the edges of scissors at the correct angle and this is where the difficulty arises.

With the aid of the little gadget described here, it is a simple matter to put a keen edge on your scissors and the job can be done in a few moments.

Only two things are required to make this little sharpener and they need not cost you anything. First a piece of really hard wood—such as boxwood, or failing this, beech or oak. A handy size to hold is 3ins. long, 1½ins. wide and ½in. to ¾in. thick.

Metal File Piece

Next you want a short length of an old triangular file. One that has been put on the retired list as far as filing is concerned will do well, because it is not the teeth that are required.

To start with, cut a right-angled nick in the piece of wood to a depth of about ½in. as shown in the diagram. It is very important to get this accurate, otherwise the cutting angle will be wrong.

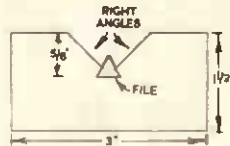
Now, at the bottom of this wide V-shaped nick, a further piece of

wood is cut out in order that the piece of file can be driven in. You can do this with a fretsaw quite easily, but remember to cut smaller than the file as this must be a tight fit.

Fixing the Sharpener

The piece of file should now be prepared, first by knocking off the unwanted ends. Do this by placing it in a vice and giving a tap with a hammer, and then by grinding the rough edges on a grindstone. The length of this piece of file must be the same as the thickness of your block of wood. Gently tap it in position and your scissors sharpener is ready to use.

Place the flat side of the scissors on the wood edge of the V nick with the



cutting edge touching the file and draw it to and fro a few times. This operation is quite sufficient to keep your scissors in good trim. You will note that the teeth of the file have nothing to do with the sharpening process: it is the ends that do the necessary work.

trees or anywhere in a cold draught to cool off. Cool down gradually—put on your sweater or pullover or any extra garment, and keep it on until you have cooled. Do not imagine you are being "soft" by doing so, for it is sound advice.

Watch Your Digestion

Have a thought for your digestive organs. Remember that when in camp you are having a complete change from your ordinary daily round. Fresh air, more than normal exercise, different kinds of meals, new conditions, all affect the body, so carry with you a tin of health salts, which will be beneficial to take every other morning.

Bear in mind that constipation is a chronic camp ailment. If you do not take steps to avoid it, you are bound to suffer from miserable headaches and inertia. This complaint is caused by change of drinking water, change of food and of living conditions generally. So do not forget to take an aperient from time to time.

Sometimes the change of food brings on indigestion. It is useful to take along a little bicarbonate of

soda to ward off any attack that may develop. Indigestion can make you feel really miserable. If no other remedy is handy, heat up some drinking water and sip it. It must be hot, not merely warm.

Sunburn

This can be very painful. Anyone working indoors most of their time who suddenly exposes himself to the summer sun by taking a sun-bath, should remember that to expose one's face and body fully to a hot sun can bring about extremely painful conditions.

Therefore, if you must sun-bathe, do it gradually. A short time at first, gradually increasing the time your skin is exposed. Keep the back of your head and neck shaded. If you should, unfortunately, get badly sunburnt, apply coco-nut oil or some other preparation to the tender spots.

Stings and Insect bites should be guarded against by using one of the excellent preparations now sold by chemists. Anti-midge lotion is not disagreeable in smell, and if applied from time to time when you are camping in a spot where gnats, flies,

midges, etc., are numerous, will help to keep the voracious pests at a distance. Here, again, prevention is better than cure. To give relief if stung by wasp or bee, dab the place with ammonia.

In your first-aid kit you should carry the above-mentioned lotions, a few aspirins, one or two bandages in case of cuts, etc., boric lint (for sores and cuts), iodine, health salts or aperient pills, etc. Do not neglect slight burns or cuts. Scalds should be dressed to keep out the air.

Drinking Water

Get your drinking water from a source you know to be free from possible contamination. If in doubt, boil all water before using it for drinking or in food. You cannot be too careful.

Even streams on moors and other remote places may be polluted, and it is always risky using such water without first boiling it. Get your supplies, if possible, from the nearest farm or other house, even if you have to carry it a mile. Keep all foods covered over; and watch your sanitary arrangements.

Some Unusual Hobbies

It is surely impossible even to estimate the number of unusual hobbies, and our post bag can only prove a comparative few of the many hundreds there must be. A natural instinct for collecting seems to be inherent in most of us, while everyone at some time or other has tried his hand at doing something to prove himself a craftsman. More and more people, indeed, are realising that the strenuous and unsettling times in which we live can be combated largely by some quiet and soothing efforts with our hand and brain. All can be taken up with enthusiasm and often at little cost, and the relaxation and enjoyment which can be obtained, not to mention the healthy occupation fulfilled, is clearly shown in the three examples here. Even if the pastimes undertaken by these three

men are unusual, they show an originality of thought and an excellence of results, which must be entirely beneficial to those involved.

The first picture is proof of a victory over affliction, for you see the results of work undertaken by a blinded soldier who lost his sight in Germany in 1945, but who now uses his undoubted talent at woodwork to keep his hands and mind happily employed. He is Mr. T. M'Kay of Saughton Road North, Edinburgh. After learning his craft at St.



Dunstons he now carries on at home. As you see, he makes practical pieces of woodwork and receives orders for lamps, trays, fireplace screens, etc.

The centre picture also comes from Scotland, and is of a 77-year-old craftsman—William Hutton of Abbott Street, Perth. The model shown is actually in cork, being a realistic model of a local church. He



(Photograph by Peterborough Advertiser)

estimates that when finished he will have used up 15,000 pieces of cork in its building. Each piece is cut to shape and then cemented in place with care and precision to make the result you see.

The gentleman on the right with his large family of figures is Mr. G. Mossendow of Castor, Peterborough, who enjoys making figures, such as you see, in reinforced concrete. He has enjoyed this now for a number of years, with the result that many gardens in the city are now adorned with his quaint coloured animal, human and grotesque figures.



(Photograph by Edinburgh Evening News)

Any handyman or craftsman will appreciate the value of AN OPEN TOOL CARRIER

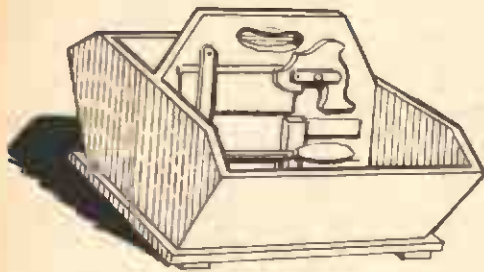


Fig. 1—A practical piece of carpentry

CARRYING an armful of tools about the house to make certain repairs is a somewhat awkward job, and may be avoided by having a good tool tray such as depicted here in Fig. 1. The advantage of a tool tray is that all the most useful tools are kept together. It holds certain odds and ends and a lot of the smaller tools as well, which are from time to time called upon for use.

The tray, too, is easily carried about from place to place. Another advantage also is that certain edged tools may be held in rack form on the central partition of the tray, thus preserving the cutting edges. We would like to point out that the tray illustrated and described here is the smallest for practical use, and a tray 20 ins. or so long would be found most useful for larger tools.

The smallest practical tenon saw is $11\frac{1}{2}$ ins. long with a 7 in. blade. This saw then governs the size of our present tray and, as will be seen in the sketch, the saw fits nicely on the upright, being held there by a turn-buckle and slotted rack.

Square Ends

The tray shown, it will be observed, has two sloping sides only, the connecting sides being perfectly upright, thus avoiding any difficulty that there would be in forming the bevels if all four sides were made sloping.

For the floor of the tray we require a piece of $\frac{1}{2}$ in. or $\frac{3}{4}$ in. wood measuring $14\frac{1}{4}$ ins. by 10 ins. If a single piece cannot be obtained this size, two pieces of 5 in. stuff may be glued edge to edge and held by two cross battens on the underside which will also form feet. These battens could be quite light stuff, $\frac{1}{2}$ in. perhaps and 10 ins. long by 1 in. wide.

Coal Box—(Continued from page 90)

varnish, oak colour preferably, or enamel paint.

A nice brown or red brown colour would suit most tastes and existing furniture, too. For those able to do a little simple graining, a

The tray, bearing considerable weight as it will, must be strongly constructed, and we know of no more suitable joint for connecting the sides than the lock or pin joint shown in our details at Figs. 2 and 3. The open mortises and the tenons of this joint can all be cut accurately and easily with the tenon or fretsaw, and it is just a matter of setting out the work accurately beforehand.

Joints to Fit

By the simple method of drawing out the mortises and tenons shown and figured in Figs. 2 and 3, and by cutting each on the correct side of the drawn line a perfectly fitting joint is made. The joints can be further strengthened by putting in a few small wire nails. Two sides for the tray are cut as Fig. 2 and one edge of each planed to a bevel where it meets

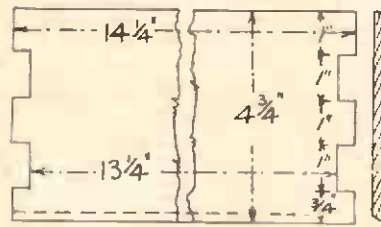


Fig. 2—Side details and joint

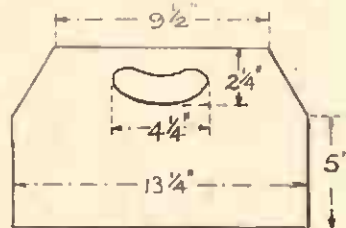


Fig. 4—Centre handle partition

the floor (see the cross section in Fig. 2).

For the two upright sides, cut two pieces to the dimensions given, with the pin joints arranged as in the larger detail. These two sides need no beveling as they are glued flat on the floor and are screwed to it from beneath.

In assembling the four sides it will be found best to wipe the joints with the glue and knock them together,

not forcing them too much to cause cracking or splitting. Before the glue has hardened lay the frame on the floor piece, add the glue and drive in a few nails or screws.

For the partition, shown in Fig. 4, use a piece of $\frac{1}{2}$ in. wood. Smooth up all the cut edges with glasspaper and ease it into position between the two upright sides. See it stands at right angles with the floor before adding the fixing of nails or screws.

Tool Racks

The actual tool racks must be designed to meet individual needs. If a larger tray than that given here is made, the choice of tool for each rack must be carefully considered. On the reverse side to where the tenon saw is fitted such smaller tools—screwdrivers, bradawls, calipers, etc.—can be dropped through slotted racks formed from narrow strips of wood supported on small blocks at ends and middle.



Fig. 3 (and above)—How the parts fit together

Planes are best carried in the bottom of the tray, and positions for other less bulky tools must receive equal attention.

Regarding the finish to be put upon the wood, paint is perhaps preferable, but creosote or other wood stain or preservative would answer equally as well. Bear in mind that all sharp edges and corners of the wood should be cleared away before any finish is laid on the wood.

really nice article should result, which, if the graining is carried out reasonably satisfactory and the surface coated with a clear oak varnish, should look little inferior to solid oak.

If it is desired to add a holder for a

coal shovel, all ready in possession, quite a good one can be made from a 1 in. wide strip of stout sheet metal, bent to a shape to allow of the shovel being slid in, and screwed to the back of the coal box.

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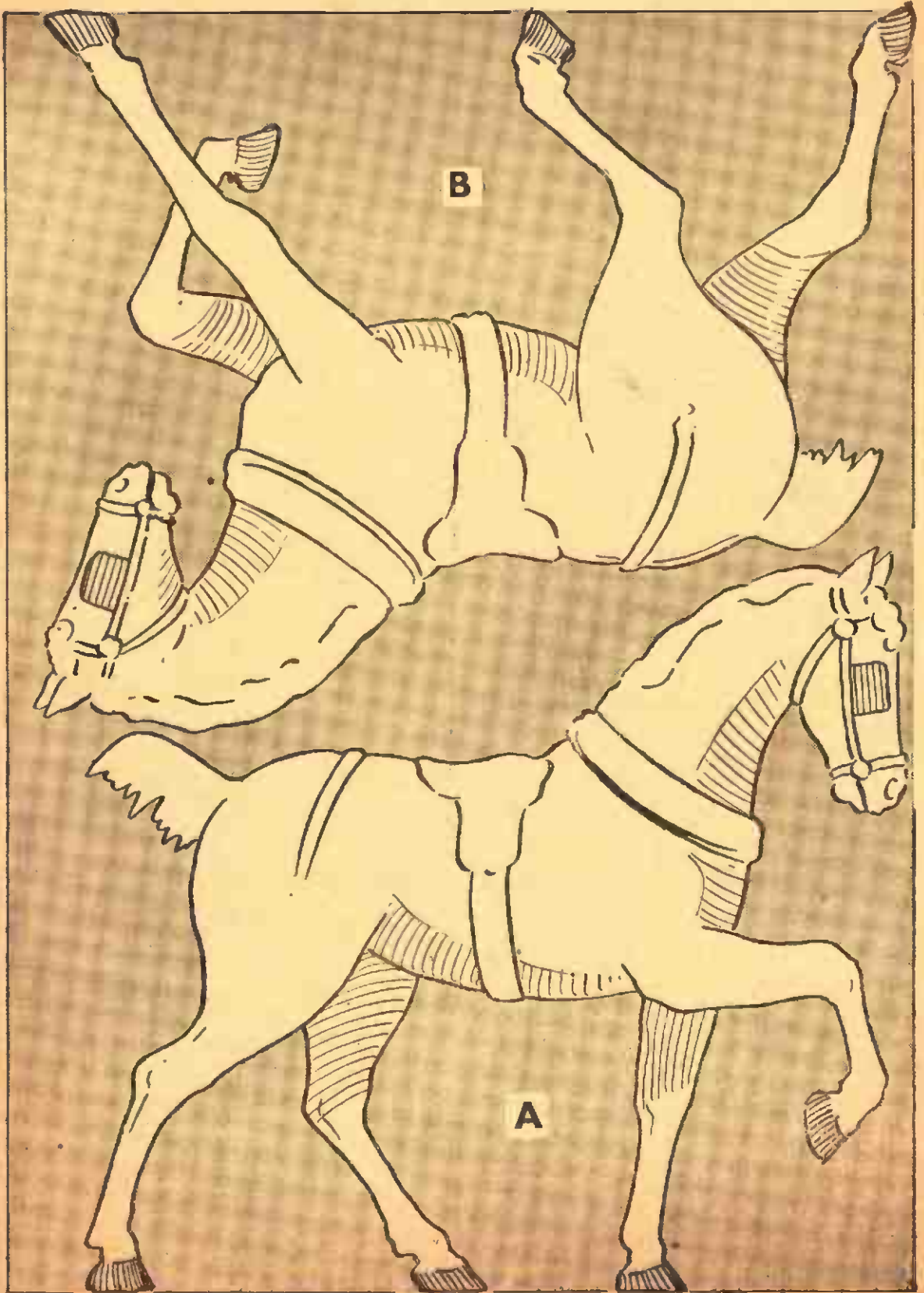
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Patterns for Horses for Model Stage Coach (see page 87)





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