

Hobbies

WEEKLY

May 30th, 1945

Price Twopence

Vol. 100 No. 2589

Patterns and details for a Model QUICK-FIRING GUN

A PATTERN page is provided in this issue (on page 71) for making the novel, automatic, rapid-fire gun illustrated. Although the model is not based on any existing gun, it is an interesting piece of work to construct and see in action; moreover, it is of a size which permits one to use up comparatively small scraps of $\frac{1}{4}$ in. fretwood.

The mechanism of the gun works on a very simple principle. To operate it, one merely "feeds" the breach head with wooden shells. The shell chamber holds six such projectiles, one resting on top of the other, the shells being inserted via a special aperture.

How It Works

For clarity, five shells are shown only in the sectional side view at Fig. 1. The trigger, as can be seen, is a two-pronged type. By turning the handle in a steady anti-clockwise direction, the prongs engage with the "lug" on the sliding plunger rod and thus force it backward to a certain point, whereupon it is automatically released.

Meanwhile, as the plunger is forced back, its striking end is withdrawn from the shell chamber. Consequently the lowest shell drops in alignment with the "bore" of the gun barrel, due to gravity, so that as the plunger—drawn by elastic tension—clicks forward, it "kicks" the shell out with considerable force, the whole

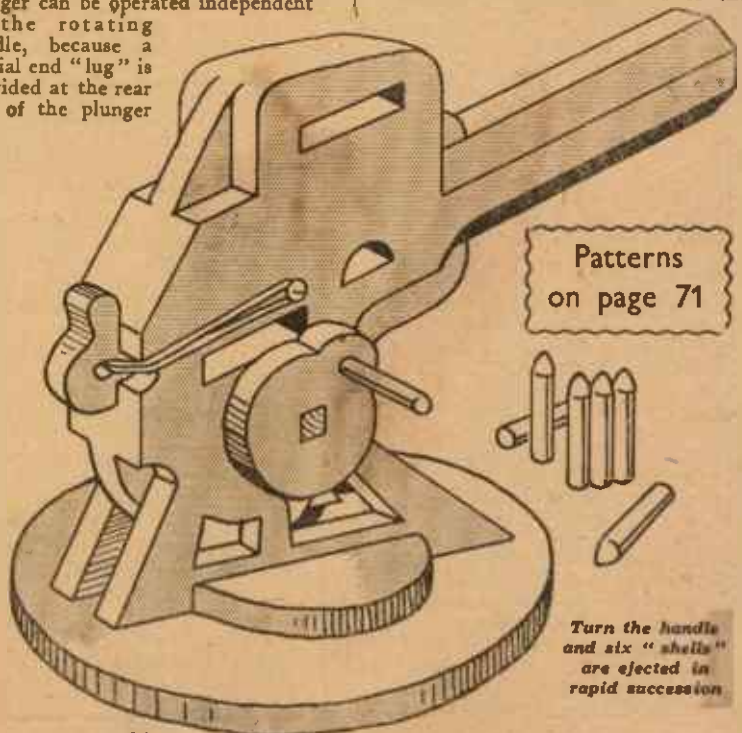
action repeating itself until the shell chamber is empty.

A Slow-firing Action

The above action all takes place merely by turning the handle continuously. If desired, however, the plunger can be operated independent of the rotating handle, because a special end "lug" is provided at the rear end of the plunger

for gripping with the fingers. Thus, one can have a slow-firing action.

A necessary feature with the gun is that the barrel must be kept in an elevated position, thus ensuring that the small, light-weight shells will slide close to the end of the



plunger to obtain the maximum velocity.

For this reason, then, and because the whole gun structure must be held down steady with one hand to overcome the inevitable "jerks" caused by the engagement and sudden release of the trigger prongs on the plunger lug, the gun barrel and body and its supports are a fixture.

Centre and Cover Parts

Begin construction by cutting out the centre and cover parts from

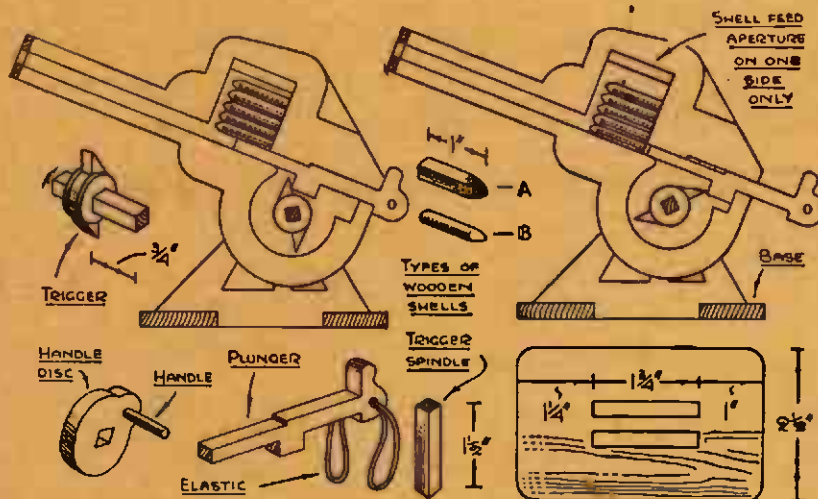


Fig. 1—Section of gun with detail of mechanical parts

$\frac{1}{4}$ in. thick fretwood. Two cover pieces are required, the shell aperture being cut in one of them only (the lefthand side piece). Regarding the patterns of the centre parts, the operating handle disc and its washer shown within the outlines can be traced out as shown, or left intact, as both are cut from the same thickness of wood.

Having carefully cut out the centre and cover parts, the former are glued and arranged on one of the covers, as shown in the sectional side views. See that the bore of the gun barrel is exactly $\frac{1}{4}$ in. square and parallel along the whole of its length, from nose to rear.

Plunger and Trigger

Before attaching the other cover piece, make the plunger rod. The hole in the rear end is, of course, for the elastic band (see Fig. 1). To prevent undue rubbing and consequent breking, the rims of the hole, at each side, should be rounded smooth by twisting a "poke" of fine glasspaper within it. The cover notches must also be made smooth, for the same reasons.

Try the plunger in its position, as shown. It must slide backwards and forwards easily, but not too loosely. To ensure easy running, rub the plunger with a piece of candle.

The two-pronged trigger is then made. The trigger is cut (preferably) from $\frac{1}{4}$ in. birch plywood, but fretwood will serve. Cut, from $1/16$ in. plywood

or fretwood, two square-holed discs, then prepare a spindle from $\frac{1}{4}$ in. square strip, as shown.

Glue the trigger upon the spindle $13/16$ in. from one end. Add a washer, this giving a spindle projection of $\frac{1}{4}$ in. (see Fig. 1). The second washer goes to the opposite side; the washers give extra strength and also facilitate the movement of the trigger.

Test the Movement

Insert the longer projecting end of the spindle into its hole in the gun

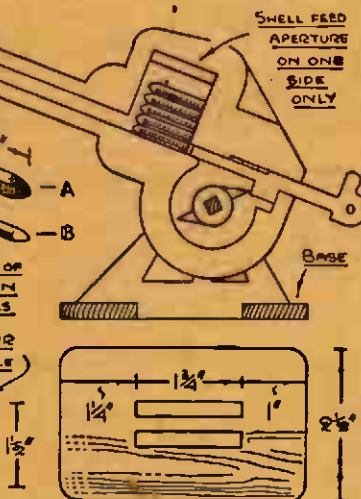


Fig. 2—Side view with plunger out, and details of a rectangular base

structure. Turn the trigger around to test the engagement of the prongs on the plunger lug. If the tips of the former do not pass by the lug, round them slightly with fine glasspaper until they do so.

When the movement is satisfactory, keep the trigger in position and glue

on the second cover piece. Make sure that all three parts are truly adhered together by fitting on the base temporarily, or permanently, as you think fit.

The Base

A half shape of the circular base is given on the pattern page. Cut it out so there are two mortises which engage with the tenons on the gun sides. If you do not have a piece of wood wide enough, an alternative, rectangular design is shown at Fig. 1.

A nose, for the tip of the gun barrel, is cut from $\frac{1}{4}$ in. wood. Lean the barrel tip and insert a $\frac{1}{4}$ in. square piece of wood to centre the nose when glued on. When the glue sets, clean over the work with glasspaper.

The outside of the barrel, it will be seen, has its four corners cut and glasspapered to the shape of the nose piece. The handle disc washer is now glued over the trigger spindle to be $1/16$ in. away from the gun side. A piece of $\frac{1}{4}$ in. dowel, $\frac{1}{2}$ in. long, is glued to the handle disc and the latter glued on the spindle, close against the washer.

The Shells

Suitable wooden shells can be cut from $3/16$ in. fretwood and pointed as shown at A, Fig. 1. One may, however, use $3/16$ in. dowelling, as indicated at B.

To complete the model, rub each shell with candle and insert them in their chamber. Thread a strong elastic band through the plunger lug and connect the loops to single roundhead screws ($\frac{1}{4}$ in. by $\frac{1}{4}$ in. size) driven into the covers, one screw to each side. The position of the screws is indicated in the illustration. To finish the work, give it a single application of grey paint; do not touch the arm of the plunger rod.

Handy Hints to Remember

Stamp Damper

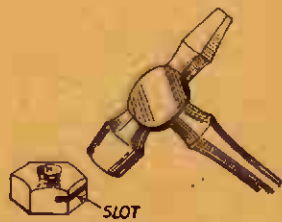
A CHEAP and serviceable stamp damper may be made from an old fountain pen. Remove the pen nib and composition feeder (A and B) and insert a small piece



of sponge at C. Fill the reservoir with water in the same way as a fountain pen and you have a simple damper for moistening envelope flaps, the back of stamps, etc. by just running the damp sponge along the surface to be stuck.

Fixing Loose Nuts

HERE is a method of locking any nut so that it will not work loose, but can easily be removed with a spanner. Cut a



hack-saw slot halfway through the nut (see sketch). Tighten the nut in place, and then close the slot by hitting the nut, just above the slot, with a hammer.

The woodworker will find time and labour saving in these GENERAL HINTS

NEW readers to these pages will not probably have learned all the many little hints which have appeared over the course of years. Obviously, it is only by experience that one can learn the best use of tools, the best method of keeping them, and all those many incidental little gadgets which will help to improve work and save time as well.

A Time Saver

To start with, how many workers keep a partitioned box with their screws and nails in separate compartments, or how many keep them jumbled up, all sizes together in a single container? The former is, of

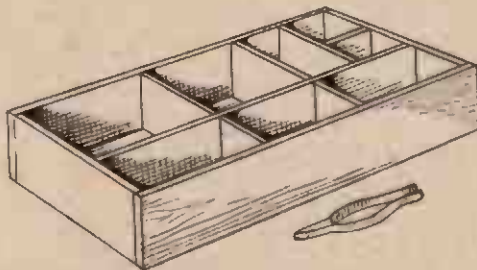


Fig. 1—A partitioned box and picking-out tweezers

course, a great time-saving device, and one which is easily made.

A square box or a flat tin box with a lid are excellent for this purpose, and they can be partitioned off by halving pieces of thin wood, which in turn fit tightly to the sides of the box as shown at Fig. 1. Partitions need not be all the same size, but relative to the actual contents and the number of articles likely to be placed.

For instance, a larger compartment is obviously necessary for long screws, whilst a great number of very small ones can be kept in a comparatively tiny compartment. The wood for the

to the shape shown in Fig. 1. Here again, they must be kept in the box itself, and not left lying about so they are likely to become lost.

Another useful form of holder has been shown in our pages recently. This is the gluing together of a number of match boxes in the form of a cabinet. A little button, or bead, or ring can be added to the front of each drawer so formed, and a dust-proof handy receptacle is the result.

Then, too often tools are left lying about on the bench, which is not only bad for them themselves, but dangerous if they have any cutting edge. Formerly, of course, there were special tool racks obtainable into which small handled tools could be fixed.

one's tools clean, bright and sharp, and this is a point which is too often overlooked by the beginner. He is so anxious to go on working to the last minute that when he has to give up, all the tools and materials are either left lying about, or put into a drawer or cupboard without further attention.

Cleanliness

This is wrong. Leave off five minutes earlier, and give your tools a wipe over to see that they are put away clean.

See that no shavings or dust remains in the slot of the plane, that the fretsaw has no sawdust clogging round the spring grips, and that any cutting tools likely to be unused for some time, have a thin film of oil to prevent rust.

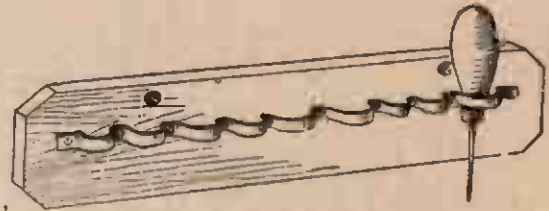


Fig. 2—An easily made rack for handled tools

The shortage of steel prevents these being made now, but a simple type of rack is shown at Fig. 2. A long strip of leather $\frac{1}{4}$ in. wide is nailed with loops to a board $\frac{1}{4}$ in. or $\frac{1}{2}$ in. thick. The length depends on the number of tools you want to hold.

Tool Holder

The corners can be rounded off clipped across for decoration, and two holes for hanging are bored along the top edge. The actual loops of the leather may vary according to the actual type of tool you have in place, and be large enough to hold

Sawblade Hints

A point which sometimes seems to worry beginners is whether the fretsaw blade should be left in the frame or not. There is a feeling amongst some that the tension created by holding the sawblade taut is apt to weaken the frame itself if always kept in that state. This, however, is not the case and the blade can be allowed to stay in the handframe without detriment to either part.

It is, of course, always one of the failings that until one gets used to it, the sawblade tension is never sufficient, and in consequence the saw either breaks or jumps out of its grip at top or bottom, and probably be-

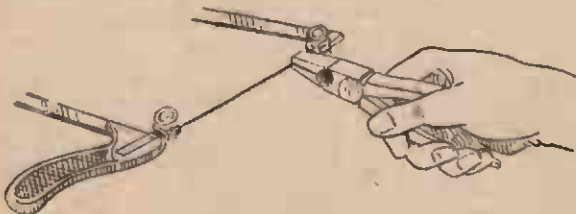


Fig. 3—Turning a twisted sawblade with pliers

partitions should be $\frac{1}{4}$ in. or $\frac{3}{16}$ in. thick, and you can then probably glue along the top tiny slips of paper showing the size of the contents.

A useful addition to this box is a pair of small tweezers which can be used for picking out the tiny contents. These tweezers can be made from a piece of springy steel, bent

it without allowing the handle to fall through.

Such a holder strip can be fixed to the wall of the workshop where you are likely to always have the tools handy, or can be made removable by having a larger hole in the back.

We have before mentioned in these pages the question of keeping



Fig. 4—The bad result of using a sloping saw

comes badly bent.

If a saw does bend in this way, it should be straightened again carefully in this manner. Put it back as tightly as possible into the frame, and then use it slowly to cut into a fairly thick piece of wood. If there has been any definite bend in the blade, the process should straighten

it out. In doing it, the handframe must be operated at a lower rate than in normal cutting, and the sawblade ends must be firmly gripped in the blade itself.

It sometimes happens, by the way, that a blade will twist slightly in coming out of the handframe holder. If this happens, a pair of flat-nosed pliers can be used to turn the blade so it faces the correct direction as shown in Fig. 3.

Plural Cutting

Much time can often be saved, too, by cutting out parts together. So often two or three small pieces are required alike, and it may seem a rather monotonous business cutting them out individually. There is no reason why they should not be cut all at one operation, providing thin wood is used and a little additional care taken.

The saw in the hands of a good craftsman can cut wood $\frac{1}{16}$ in. or $\frac{1}{8}$ in. thick and several layers of thinner material up to this extent can be used with equal safety. The layers, of course, must be held together firmly and in cutting the work must be held rigidly to the table with the

fingers reasonably close to the blade itself.

The usual warning of trying to cut too fast must be borne in mind, because in cutting two or three thicknesses of wood, the operation may be a little more difficult owing to the varying grains which will be encountered.

Fixing Boards Together

If you are, say, wanting to cut two pieces of $\frac{1}{16}$ in. thick to a certain shape, nail the complete boards together first, and mark or paste the pattern to the uppermost one. Long, thin fret nails should be used for fixing the boards together, and driven sufficiently far through to turn over on the underside.

Put the nails round the outside edge of the part to be cut, and, if you wish, in two or three places of the fretted pattern which will be cut out later. Cut the interior fretwork parts first, and finish up with the outline. In this way, the boards will be held together until the last moment, and when the final cut is made you will then have two parts exactly similarly cut at one operation.

This plural cutting demands addi-

tional attention to the question of keeping the sawblade upright. Obviously if you are cutting a thin piece of wood, any slight deviation from vertical will not be shown, but as you increase the total thickness, the angle too is greater.

Take, for instance, cutting two $\frac{1}{16}$ in. pieces together and sloping the saw rather considerably whilst going round the various parts. You will get the result shown at Fig. 4.

A Bad Result

The top piece on which you can see the blade travelling, is cut to the correct design. The under-piece, however, is the pattern very much distorted because the blade has been working at an angle instead of upright.

Thus, instead of saving yourself time you will probably have to do the second piece over again to get a satisfactory result, even if the parts concerned are not fretted one or two sides to a box as a plain rectangle.

The result here would be that the sides are not exactly the same shape and size, and would involve more work to get them so before you can fit them into the framework required.

How the handyman at home can undertake UMBRELLA REPAIRING

NOW that umbrellas take so long to be repaired why not try to mend your own? It is not nearly as difficult as you may suppose.

To make a soiled cover look like new, all you need is a bowl of lukewarm soapy water, to which you have added a little liquid ammonia. Now take a soft brush, open out your 'brolly,' and scrub the fabric. Repeat with clear water, then again with a soft rag which has first been dampened and wrung well out. This will gather up any excessive moisture before you leave the gamp to dry.

Covering Tears

Should there be tears in the fabric, you can easily mend these with rubber plaster. Cut into pieces large enough to cover the holes, and then stick them on the wrong side of the 'brolly,' but if the tears are very large you will have to darn them carefully.

Perhaps your cover is of the oiled silk type? Then mend the holes with pieces cut from a tobacco pouch of this material. Stick them, on the wrong side, with paste or gum, and they will hardly notice.

Never try to 'seam' an umbrella. This is the term for hemming down the folds which have worn thin, but as it often spoils the shape, far better to cut away the old material and use the pieces as patterns for a new cover.

This is where an old mackintosh comes in handy. It is neater to stitch the different widths together with french seams and then attach the cover to the ribs. You will need patience but it is worth it in the end.

Handle and Ribs

What about the handle? Is this shabby or rubbed. Then why not buy a small tin of bright coloured enamel? Paint the handle over, give it time to dry and then add a smart cord.

Even a broken rib can be repaired at home. Sometimes it is only a stretcher which is faulty, when a good one saved from a rib of an older umbrella can be put on. Take off the outside cap, and then unwind the runner and turn your broily inside out. The best way of doing this is to stand with your umbrella partly open, the inside of the cover resting against the left side and outside of

your left arm, and the stick passing between your left arm and body.

Now pull the stick sharply with your right hand. In order to avoid the cover splitting, it is a good idea to unstitch a couple of the corners from the ribs before you start. But be sure that the broken ends of the rib do not tear the cover.

You will now need a parallel vice with $2\frac{1}{2}$ in. or 3 in. jaws. Also a file and a small steel punch.

Adding the Stretcher

To put on the new stretcher, file off the head of the rivet that is in the joint and punch it out, holding it meanwhile in the vice by means of the broken bit of stretcher. Be sure to measure the new stretcher with one of the others to get the right length. The new rivet can be made from a piece of spring wire. Fit the stretcher so that the hollow side will be towards the handle when your gamp is open.

A New Rib

When an entire new rib is needed, first measure it with the old one and also measure the stretchers, otherwise it may close before the rest or be left projecting.

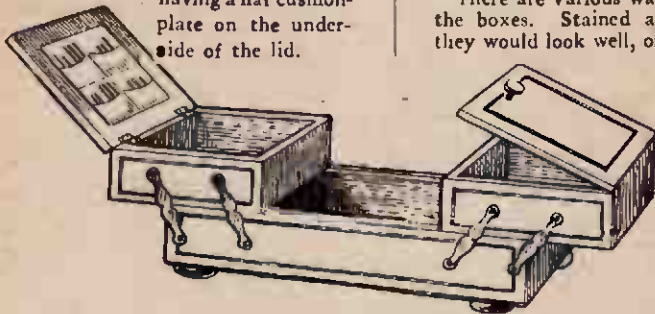
Hold the rib in the vice, placing it with the hollow side towards one of the vice jaws (otherwise it may crush) and drive the joint in the required direction by hammering.

Solution
to last
week's
X-Word
Puzzle

B	A	S	H	F	U	L	A	C
A	A	I	P	C	U	N	R	
I	N	R	I	L	K	T	A	
T	O	E	E	Y	E	L	E	T
S	A	N						O
R	E	A	R	D	A	D		
R	V	P					J	E
A	E	T	E	A	R		R	I
H	O							
E	B	E	E				O	I

A simple, novel and useful EXTENDING BOX

HERE is a useful article which would make an ideal gift for the lady friend. It is intended to contain reels of cotton and silk, thread, needles, etc. Needles may also be kept conveniently handy by having a flat cushion-plate on the underside of the lid.



The length of the closed box overall is 10ins. and its width 5ins. Each compartment, of which there are three, is 2½ins. deep, which leaves ample space within for all the articles named.

Wood ½in. thick is used throughout and all parts are simply butted together and glued up neatly.

Parts Needed

The cutting list given forms a useful reference when marking out the various pieces of wood.

In Fig. 1 a side view of the boxes is given showing clearly the positions of all the parts and how the cross or strap hinges are arranged. In Fig. 2 the method of butting the pieces is shown and their correct relative positions.

When all the parts are glued up, each side and end should be cleaned off and made even by rubbing down

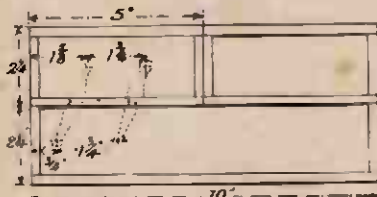


Fig. 1—Plan with size of parts

on a sheet of glasspaper which has been previously tacked down to a thick flat board.

Care must be taken to see that the smaller top boxes fit exactly over the larger one below. This is very important and necessary for a smooth action of the strap hinges, which fit hard up against the sides of both sets of boxes.

Fig. 3 gives a cross section showing the appearance of one of the smaller boxes in relation to the lower box.

The lids of the smaller boxes fit flush all round and are attached by small brass hinges. The flaps of these must be recessed as indicated in Fig. 3. The ornamental strap hinges can be made out of stout brass or ivory.

There are various ways of finishing the boxes. Stained and varnished, they would look well, or they may be painted outside in bright colours of enamel. Or again, Rexine or leatherette make an excellent covering when glued on.

If the latter is used it must be well

rubbed to the wood and the corners and angles made sharp and even.

The inside of the boxes would look best if lined with paper or even silk carefully and neatly dressed and stuck down.

The top of the lids could be panelled if desired, as shown, with transfer handing, or if these are not obtainable, then the handings could be ruled on and stained or painted.

When putting on the strap hinges see they are placed according to the measurements shown in Fig. 1, and that round-head screws are used for the fixing. Also allow for the hinges to move freely around the screws with not too much side-play.

Four turned button feet may be added if desired, or just plain discs nailed under to the floor. Two turned knobs may be put to the lids as shown in Fig. 1, and round-head screws are used for the fixing.



Fig. 2 (above)
The main box

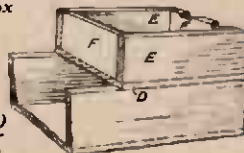


Fig. 3 (right)
The upper box in place

CUTTING LIST

- A—One Floor, 10ins. by 5ins.
- B—Two Sides, 10ins. by 2ins.
- C—Two Ends, 5ins. by 2ins.
- D—Two Floors, 5ins. by 5ins.
- E—Four Sides, 5ins. by 1½ins.
- F—Four Ends, 5ins. by 1½ins.
- G—Two Lids, 5ins. by 5ins.

From the EDITOR'S NOTE BOOK—

I AM surprised sometimes at the loose way in which some workers speak of "damp" wood and "green" wood as though it were the same. They are different insofar as damp wood can be dried with heat but green wood must be seasoned to dry the sap it contains. A quick method of "seasoning," by the way is to steam it for a short period and allow it to cool off in a draughty place, such as a shed.

DO YOU realize that glue was known to Egyptians such as would preserve their archives for centuries to the present day. Our modern glue had little on them! Actually they knew about animal glue, and had perfected a form of casein as well. Actually, you know, glues can be divided into six kinds—animal glue, vegetable glue, oil seed residue glue, blood albumen glue, casein glue, and synthetic resin glue. Twenty-five years ago there was only one kind—our old friend the Scotch glue—used in woodwork. That is the animal glue mentioned, but the needs of industry demanded something more for its various special jobs and science had to find them.

PLEASE remember that I am still willing to send a parcel of back numbers of *Hobbies Weekly* to any friend afloat in the Royal Navy or Merchant Service. If you give me his name and full address I will despatch a number to him free of cost.

I WAS very delighted to receive a letter recently from the Headquarters of the Education Branch of the B.L.A. asking me to send some books for a Library of Craft Books which was being formed for the troops. Naturally I did what I could to help and it is interesting to know that somewhere "over there" is an Educational Centre out to help fellows in a way they most appreciate.

I HAVE, from time to time, mentioned the fascination of collections and given examples of unusual, interesting, and sometimes morbid ones carried by readers. I wonder how many have thought to collect a sample of the flags sold for different Flag Days. There is not now such a variety as there was formerly but I know of a list which has its walls decorated with them. The operator has managed to get about 200 specimens which make a colourful panel of flags, flowers and badges. The owner estimates they have cost about £5!

How you can undertake your screwcutting with TAPS AND DIES

A LOT of our readers are mechanically-minded. In other words, they like fiddling about with mechanical devices such as alarm-clocks, gramophone motors, electric motors and so forth. Often indeed, they make their own mechanical gadgets, using odd gear wheels, small bolts and nuts and various suitable parts which can be picked up.

That is where a slight knowledge of screw-cutting comes in very handy. In order to make screws and nuts, one needs a few simple tools. All these implements are shown in the drawing. The beginner does not need to buy a complete die and tapping outfit right away; the set can be gathered by degrees, i.e. so far as dies and tapping bits are concerned.

For small work at home, the amateur is advised to purchase a stock taking circular spring die. It is also much wiser and cheaper to buy an adjustable tap wrench, these usually taking bits from 1/16in. diam., up to 1/2in. diam. or whatever its maximum capacity might be. A spanner holder for bits is merely confined to three sizes, as can be seen.

The B.A. and Whitworth Threads

There are various kinds of threads, of course, but the two most popular in present day use is the B.A. (British Association) and the Whitworth (or English Standard) threads. The B.A. thread is finer than the Whitworth and is used largely in making screws and nuts for electrical apparatus, wireless parts, etc.

The pitch of the Whitworth thread is coarse and is used for general work in hard metals, such as iron and steel. The B.A. thread is confined more to soft metals, particularly brass, copper, etc., including cast iron. For that reason, therefore, no lubrication with oil is necessary when using the B.A. dies and taps. Lubrication is vital when one is threading tough metals, especially iron and steel, or rather, mild steel.

The American Standard

The American Standard thread, by the way, looks very like the English Standard thread when both are cut small. Therefore, you should get to understand their main difference, for this lies in the shape of the thread. The A.S. is always flat at the apex and base; the Whitworth is rounded at these points, including the B.A. style.

As most work to be done by the reader is in relation to model engineering, only small sizes of dies and taps are required. The most useful sizes are 1/16in., 3/32in., 1/8in., 3/16in. and 1/4in. for cutting Whitworth threads. B.A. dies and taps are graded by numbers, Nos. 2, 4, 6 and 8 serving for most purposes at home.

Cutting an External Thread

Thread-cutting is a comparatively simple matter. To cut an external thread on a metal rod, for example, a suitable die is placed in its stock and tightened slightly. There are three small grub setting screws on the stock body. The central grub screw should engage with the slot cut in the side of the die; the other two screws press against the sides of the opening in the die to close the space completely, if necessary.

However, when commencing to cut an external thread, the die should not be fully tightened up. This is done when the first cut has been made. To make the first cut, a slight taper is filed on the end of the rod to be threaded, the rod is then clamped vertically in a vice.

Holding the die and stock horizontally over the top of the rod, twist the stock in a clockwise direction. Do this carefully; if the starting cut is out of true, it is difficult to correct matters again.

Work the die down the rod by gradual, easy stages. It is bad for the teeth of the die when an attempt is made to force the die on quickly by complete rotations. Force the die around slightly, make a backward turn, then force the die forward again, taking a little metal off each time until the amount of threading required has been reached.

Having made the first cut, tighten the die fully and make the final cut. A die is, by the way, tightened up fully if a normal fit is wanted for a nut. If a tight fit is wanted, have the die adjusted accordingly, i.e., not fully closed.

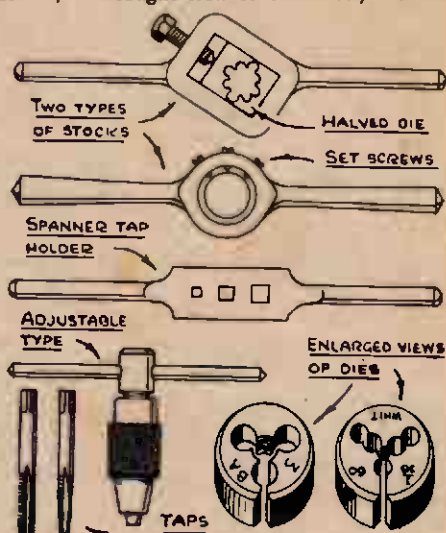
Cutting an Internal Thread

The cutting of an internal thread is just as easy as external thread cutting. One goes about it differently, that's all. The implements needed consist of the bit wrench, a taper and finishing tapping bit, a tapping drill and geared hand drill.

To thread a hole, the latter is bored. It must always be of smaller diameter than the size of the tapping bit. For example, assuming you are going to use a 3/16in. tapping bit, an 1/8in. hole is bored.

Having bored the hole, fit the taper tapping bit in its holder and make the starting cuts by half-twist movements. Withdraw the taper bit and use the finishing one. The last mentioned is not tapered at the point; both are shown in the illustration.

Tapping bits are easily snapped. One must, therefore, not use unnecessary force or press sidewise against them. And if working with wrought iron or tool steel, the bits



should be well lubricated with a thin oil. When dealing with cast iron, no lubricant should be applied as this causes tiny chips to cling to the bit and may result in a faulty thread.

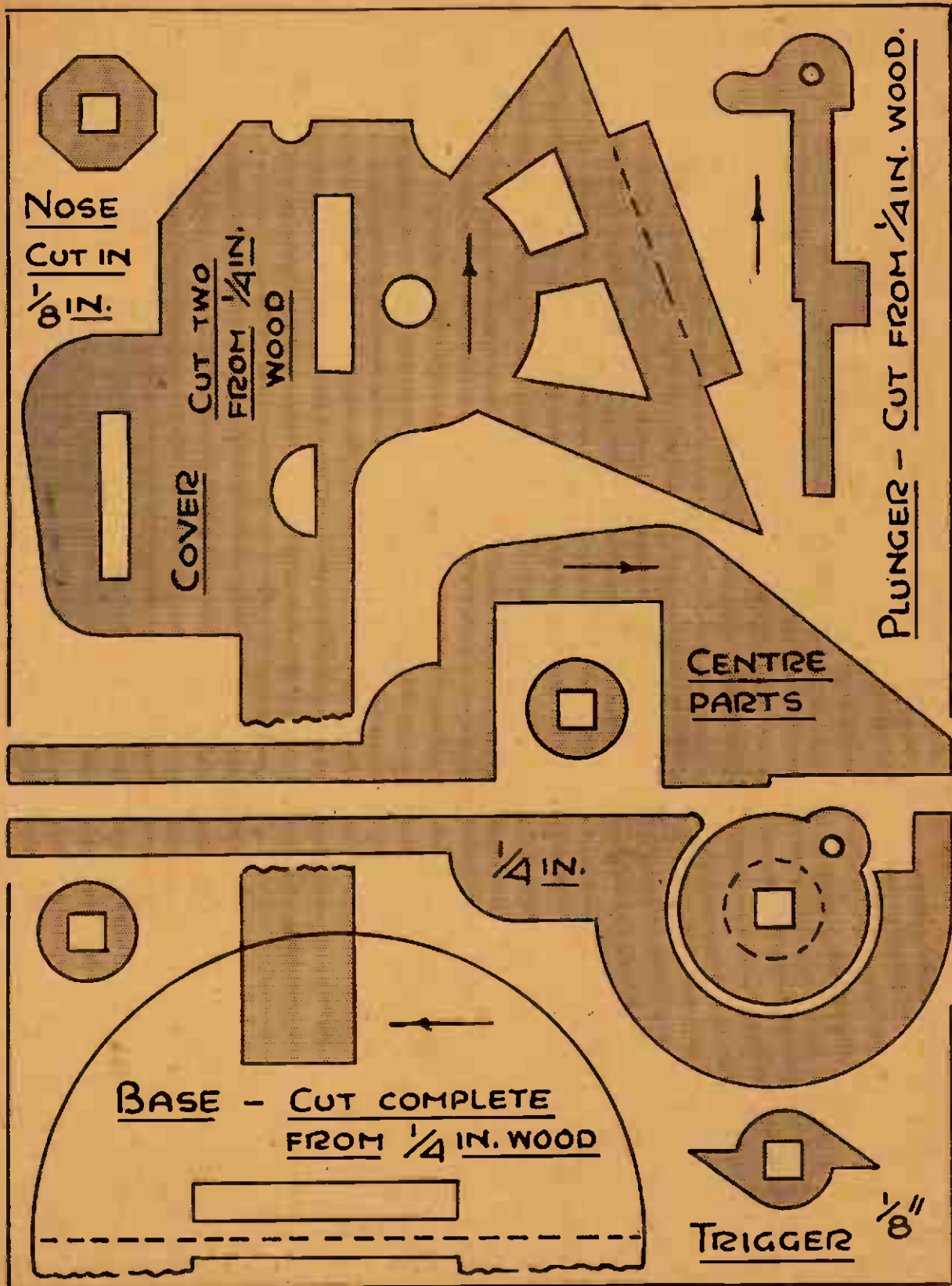
Threading a Blind Hole

Special care is needed when threading a "blind" hole, i.e., a hole with a bottom to it. Work is commenced with a taper tap, followed by the finishing tap. Cutting is done slowly, removing the bit repeatedly to clear the hole free of small chippings.

To thread right down to the bottom of the hole, a "plug" tap is wanted. The plug tap is fully threaded for this sole purpose. In order to ensure that the end reaches the bottom, the hole needs to be cleaned out constantly, as chippings drop to the bottom and would prevent the end going the full depth.

Look out for the Victory Design Sheet next week

Model Quick-Firing Gun Patterns—see page 65



The **NEW**
MEDIUM FOR
MODELLERS



Above are three widely different models made from one material — PYRUMA.

This plastic, ready-to-use medium becomes stone hard on air-drying or baking. It can then be sized and painted with poster colour or enamels.

PYRUMA is inexpensive and obtainable in tins from ironmongers, hardwaremen, artists' and handicraft shops.

Send 1d. stamp to the address below for Illustrated Instruction sheet on PYRUMA modelling methods.



Write:
 Dept. 3.

J.H. SANKEY & SON, L^{TD}

ILFORD

EST. 1857

ESSEX

V2
ROCKET BOMB

Modelcraft Plan of German "V2" Rocket Bomb, Tractor and Conveyor
 Price 1/6

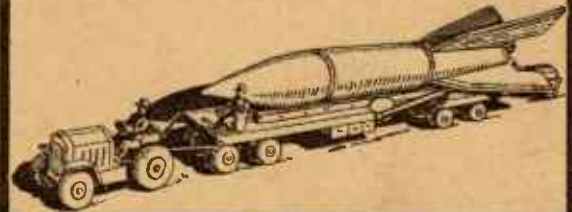
Other new releases:

(1/72 scale) Barracuda 8d.; Firefly 6d.; Austercraft 6d.; Me 262 6d.; Me 163 6d.; Piper Grasshopper 6d. Condor 50-inch Glider, 2/6; (4 m/m scale) 4-wheel Heavy Van, A.E.C. Matador 6d.; 4-wheel Cattle-Wagon, A.E.C. Matador 6d.; 6-wheel Artc; Well Wagon, A.E.C. Monarch 6d.; 4-wheel Tank Lorry A.E.C. Monarch 6d.; Crusader's Man-of-War, 4/-; Buffer-stops, Etc. for Lineside 1/-; "The Alert" Revenue Cutter 4/6d.; Stirling Castle (50; to 1") 1/6d.; "Capetown Castle" 1/6.

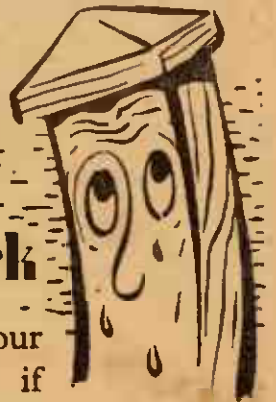
If you have not had the Modelcraft Illustrated Price List (Dec.), containing 200 Modelmakers' Plans and Planbooks, apply to any Official Stockist, or send 3d. and unstamped addressed envelope to:

MODEL CRAFT LTD.

77 (H), Grosvenor Road, London, S.W.1



The wail
of the
woodwork



Paint will save your pocket but only if it is good paint.

Sherwoods, famous since 1777, still leads the field in quality and the benefits of technical research.

SHERWOODS
Paints *Established 1777*

SHERWOODS PAINTS LTD · BARKING, ESSEX