

Hobbies

WEEKLY

February 18th, 1942

Price Twopence

Vol. 93. No. 2418

How to make a COMPACT CARPENTRY TOOL CHEST

WE are describing here this week how to make the unusual type of tool chest shown in the illustration on this page. Such a chest as this would be most useful to the home craftsman, who has, perhaps, but a limited space in which to work, and who desires to keep all his tools well together and always accessible ready for use.

Such a chest, too, would be found convenient to the worker who has outside jobs to do which necessitates carrying his kit. In the illustration it will be noted that a leather handle has been fitted to the top of the case and two catches all similar to those usually found on portable gramophones or attache cases.

With Tray Front

The chest is so made that the upper half of the front forms a drop lid, inside which can be stored the small hand and tenon saws. Fillets of wood, cut to suit the saws, are screwed crosswise in the tray thus formed, with turn buckles made to clamp them down and hold them securely in place.

There is a central upright partition which forms two distinct divisions for the smaller tools, with space immediately in the front for the longer and larger variety of tools. Above this again are four most useful

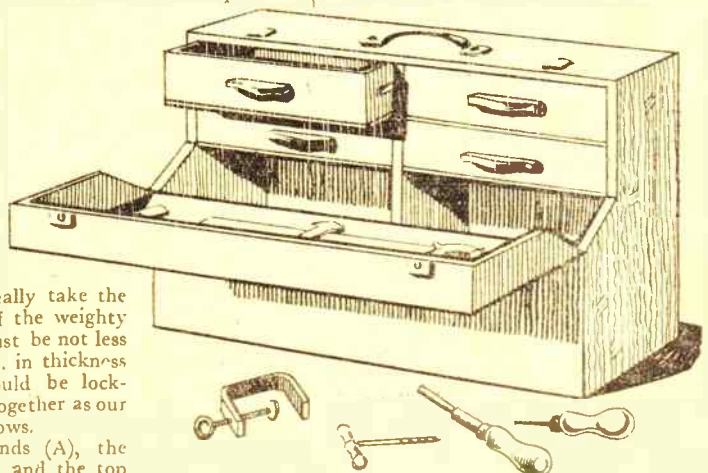
drawers, in which might be kept the quite small tools and nails and screws. One of the drawers may even be divided up, say, into six, by partitions of thin wood all slotted together and glued and nailed in place.

First Jobs

In commencing to make the chest, the ends (A), in the sectional diagram Fig. 1, should first be set out and cut. It should at this juncture be said that such a chest as this needs sound wood, and that those parts

consisting of parts (C) and (D) are therefore, of $\frac{1}{2}$ in. wood. The front sections (F) and (G) and the back (E) of the case are all $\frac{3}{8}$ in. thick. The ends will first be marked out square $14\frac{1}{2}$ ins. by $6\frac{1}{2}$ ins., and the square lock-joints marked out as shown.

The end spacing at X will be $\frac{1}{2}$ in., and inside these lines equal divisions set out to form tenon and mortise. Along the top the three front spacings taking up the lid section of $2\frac{1}{2}$ ins., will each be $\frac{3}{4}$ in. The rest of the width at this top will be equally divided into five as shown



which really take the strain of the weighty tools must be not less than $\frac{1}{2}$ in. in thickness and should be lock-jointed together as our detail shows.

The ends (A), the floor (B), and the top

To get the angle at which the upper part of the front will be cut, first measure up 6½ ins. From this point set out an angle of 45 degrees. Cut along both lines with the fretsaw to obtain a good and close fit. The other end (A) of the chest may be set

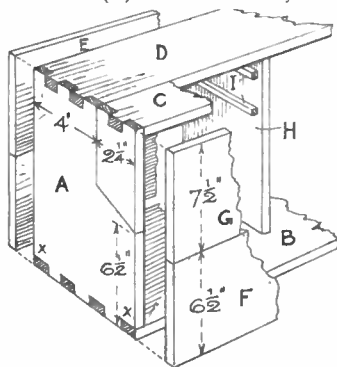


Fig. 2—General details of carcass joints and parts

out by using that already done as a template for drawing round.

The end edges of piece (B)—the floor, are laid against the ends (A) and the joint carefully marked so that a tight fit is assured after cutting down with the fretsaw. The same remark applies to the pieces (C) and (D). Two plain boards constitute the back of the chest. These are simply nailed, as shown, to lap over the ends and the bottom and top.

The pieces (F) and (G) are planed

up to size and nailed on to the front in a similar manner. After this has been done, connect the two boards (F) and (G) along the front with stout hinges to form the top of the chest as the falling lid.

The upright partition (H) is a plain piece and will be measured for centrally and nailed inside as shown. On this partition each side and also on the insides of the ends there will be fixed the drawer slide-fillets (I).

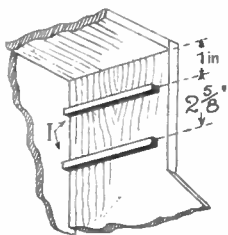


Fig. 2—The drawer slide pieces

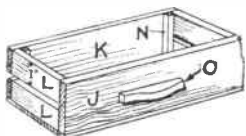


Fig. 3—Drawer construction

The proper spacing for these is shown in Fig. 2, and will be seen as being measured from the top of each fillet. If these fillets could be made from oak or other hard wood, it would be an advantage.

Fitting the Drawers

Care and accuracy in setting-out are essential if the drawers are to fit properly. Fig. 3 shows the construction of them, and how they slide in place by being pushed on to

the fillets. It will be seen from the diagram that the ends of the drawers are made up from two pieces of 1 in. wide wood with a space of just over ½ in. allowed between each piece.

The space is occupied by the slide fillets when the drawers are pushed into place. It must be observed, too,

CUTTING LIST

- A—2 pieces 14 ins. by 6½ ins. by ½ in.
- B—1 piece 21 ins. by 6½ ins. by ½ in.
- C—1 piece 21 ins. by 2½ ins. by ½ in.
- D—1 piece 21 ins. by 4 ins. by ½ in.
- E—2 pieces 21 ins. by 7 ins. by ½ in.
- F—1 piece 21 ins. by 6½ ins. by ½ in.
- G—1 piece 21 ins. by 7½ ins. by ½ in.
- H—1 piece 13 ins. by 4 ins. by ½ in.
- I—8 pieces 3 ins. by ½ in. by ½ in.
- J—4 pieces 9½ ins. by 2 ins. by ½ in.
- K—4 pieces 9½ ins. by 2 ins. by ½ in.
- L—16 pieces 3 ins. by 1 in. by ½ in.
- M—4 pieces 9½ ins. by 4 ins. by ½ in.
- N—8 pieces 2½ ins. by ½ in. by ½ in.
- O—4 pieces 3 ins. by ½ in. by ½ in.

that ½ in. square notches are cut from the back (K) of the drawers to correspond with the side pieces (L). The back corners of the drawers are strengthened by gluing ½ in. square fillets up the angles inside as shown.

Narrow, shaped handles are glued and screwed to the drawer fronts.

Regarding the finish of the woodwork of this chest, it may be either just varnished over or stained and varnished or painted. If the tool chest is to be kept wholly for the workshop, we think the varnish finish the best and cleanest. If, however, the chest is wanted for carrying about, then it should be stained.

The Editor's Notes—

IT is really surprising how the popularity of our designs has spread as much over the world as the war will allow. A recent letter from F. Sutcliffe of Christchurch, New Zealand, mentioned that he had made and sold 130 woolwinders and had ten more to make before Christmas.

This article, made from our Design No. 2350, had already won him 2nd Prize which in other contests he had taken 1st prize with a Model Tommy Gun (Hobbies No. 2352) and was Very Highly Commended for his "Ark Royal" model (Design 2351/2).

Other readers will be glad to hear of this success in the far off but very delectable country.

THOSE readers who are fond of modelling in miniature and would like to try it in something else besides wood, should turn to a new putty cement called Pyruma. It is supplied in a plastic state and can be moulded with the fingers or shaped with the gadgets one uses in modelling ordinary clay. Then it becomes stone hard by merely leaving in the air or can be baked.

Quaint figures of people, animals, etc., and even dwarf houses, trees and so on can be made quite easily and finally painted. It is also useful for parts of planes, locomotives, ships, etc., and comes in quite useful as decorative parts for fretwork designs or many pieces of work shown in these pages.

We can recommend it thoroughly for a hundred and one purposes, and an interesting free book about it will be sent to anybody, mentioning Hobbies Weekly, who writes to J. H. Sankey & Son, Ltd., Ilford, Essex.

A WARSHIP week is being held in Wallasey early in March and

Neville Williamson, of 7, Penguin Terrace, Magazine Brow, wants to make a display of ship models. If any other reader in the district can help by the loan of his own, in a co-operative effort, he should get in touch at the address mentioned.

A NOVEL suggestion for the use of our galleon patterns has come from New Zealand. Gilbert Beale, of Upper Hutt, Wellington, sends a picture of a galleon on a shield, with a background border of the Union Jack.

The novelty is, that the whole, thing has been worked in wool and the reader tells me there were no less than 32,722 cross stitches made. It is in colours, with the galleon sailing past the hills through the harbour entrance, with a lighthouse complete as it actually is at that place.

The galleon outline was enlarged four times from one of our patterns 9 ins. long, and the whole thing was framed to make a very striking fire-place screen.

The Editor



Solution to last week's X-Word Puzzle

A battery and some odds and ends will make A NOVEL NIGHTLIGHT

OWING to the glass globe, the nightlight looks like a small oil lamp, instead of a battery-operated article. It is a simple novelty anybody would appreciate and you can make it at practically no cost.

Regarding its usefulness in the bedroom at night, we need only say that if you are the last into bed and have to turn off the switch, leaving yourself to grope about in the darkness, the nightlight can be switched on first, the idea being to keep it near you within easy reach for turning off after you get into bed. Thus, the nightlight will prevent bumps, bruises and stubbed toes.

Clear or Opal

Doubtless you are wondering about the glass globe and where you can get one. It is nothing more than a small glass jar—a vaseline jar or petroleum jelly jar. The jar is shown at Fig. 5, but it does not really matter if you have not one the precise size—anything near it will serve the purpose.

You can either have a clear jar or an opal one. When the glass is clear, there is a sparkling sort of light; in the other case, there is a soft glow of white light minus translucent rays.

Coloured Paper

By fixing a piece of coloured crêpe paper around the bulb, you can have coloured light, and another bright idea is to stuff the jar with coloured transparent paper.

An opal jar can be made simply by putting a few tablespoonsful of common salt in the jar and pouring in a small quantity of warm water (just enough to make a thin paste). The mixture is poured out, turning the jar

around as you do so, to leave a liberal "skin" on the inside.

When the glass is heated before a fire, the salty water dries up to leave a "frosted" surface inside, thus rendering the jar opal. Epsom salts could be tried, together with a lump of baking soda.

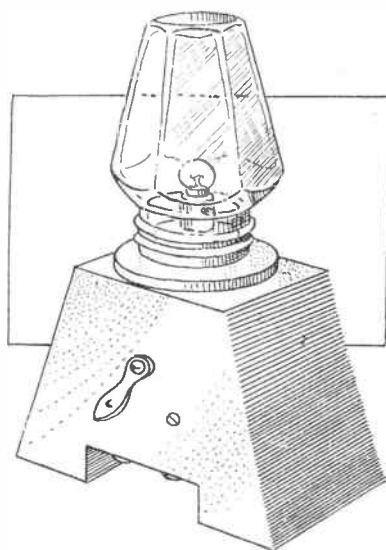
Construction of Base

Make the base of the work first. You will need two shaped side pieces as shown at Fig. 2, these being cut from $\frac{3}{8}$ in. thick wood such as deal. At Fig. 3 we show one of the four centre pieces required which are cut from $\frac{1}{2}$ in. stuff.

If you can manage to shape up two of these pieces from 1 in. thick wood, do so. If not, cut out the four pieces and glue two together to make up the desired thickness of 1 in. Do not use $\frac{3}{4}$ in. stuff as this is the thickness of the battery itself.

The Base

To build up the base, glue the centre pieces at the side edges of one



of the edges of the work (see dotted lines at Fig. 2).

Bulb Base and Wiring

Having cleaned the base smooth, you can turn your attention to the bulb base and its wiring. The bulb base consists of two discs of wood glued together (see Fig. 4). Drill an $\frac{1}{8}$ in. hole in the centre, with a smaller hole at one side to it as shown. marked X.

Now drill an $\frac{1}{8}$ in. central hole through the top of the base work. This is for a small machine bolt $\frac{3}{16}$ in. long by $\frac{1}{8}$ in. thick. Drive this through the top (from the inside) into the bulb base so that $\frac{1}{8}$ in. projects, the latter being provided for the cup of a brass bulb holder (refer to Fig. 6).

Screw on the bulb fitment, then bore a hole through the base top via the top disc of the bulb base hole X.

By the way, the top disc must be a tight fit inside the neck of the jar.

The inside measurement of the jar suggested is 1 in. diam., so make your top disc according to the diameter of the jar you use.

A piece of cotton-covered coil wire is attached to the set screw of the bulb and the free end brought through the top disc into the battery chamber. Drive a round-head screw into the base top at the inside, a short distance away from the central screw (see front elevation), a wire being fixed to the head.

At the front of the work, bore three $\frac{1}{8}$ in. holes for tiny

MATERIAL REQUIRED

- 2 base sides, 2½ ins. by 3½ ins., by $\frac{3}{8}$ in. thick.
- 2 centre pieces, 2½ ins. by 1 in. by 1 in. thick.
- 1 top piece, 2½ ins. by 1 in. by $\frac{1}{8}$ in. thick.
- 1 bulb base disc, 1½ ins. by 1½ ins. by $\frac{1}{8}$ in.
- 1 ditto, 1 in. by 1 in. by $\frac{3}{8}$ in. thick.
- 1 small flashlamp battery.
- 1 bulb and bulb holder.
- Some coil wire and screws.
- 3 photo-frame clips.

of the sides, keeping them flush at the bottom, then add the opposite side. You now need to cut out a top piece, this measuring 2½ ins. by 1 in. by $\frac{1}{8}$ in.

Glue and pin (if necessary) it in place between the sides, then chamfer the ends to correspond with the slope

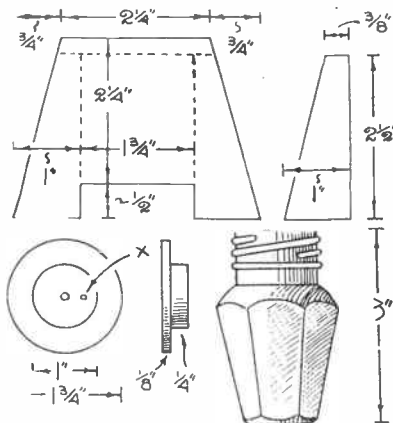
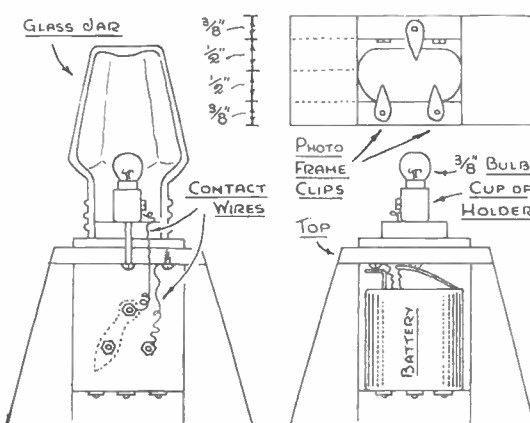


Fig. 4—Detail of the base

Fig. 5—The type of glass jar required



Figs. 6 & 7—Front sectional elevation and back view, showing battery in place and (top) a bottom view

bolts as shown. The switch (this is easily cut to shape from thin brass) is bolted to the top bolt which, incidentally, should be roundheaded and $\frac{3}{16}$ in. long. One of the contact wires (that leading from the set screw on the bulb holder cup) is wound around the inside projection and held by the nut

The two lower bolts are flatheaded and $\frac{1}{2}$ in. long. Screw them in so the heads are flush at the outside. To one of them attach the second contact

wire. Do not be too mean with this wire; it should, in both cases, be long enough to be pressed into the top corners of the battery chamber so as to be out of the way of the battery arms.

The dry battery used is a small double-cell one (size No. 88). Bend the arms in the fashion shown at Fig. 7 so both press against the contact screw and bolt. The battery is held in place by means of three photo frame clips (see bottom view of base). Small tabs of brass, drilled for a round

head nail, would serve as clips.

As a finish, use enamel paint. Two thin coats are sufficient and there is no need to paint the inside of the base. Just give the whole thing a thin coat, then apply the second coat to the base and base top disc only as these are the only surfaces that will be seen.

Do not have any paint on the switch or its screw heads, otherwise you will insulate the electrical circuit.

Mystify your friends by making and using this simple FIGURE COMBINATION LOCK

THIS form of lock does not require a key to open it, a valuable quality as keys have the habit of being mislaid, or lost. Furthermore, it only opens to a combination of numbers, so only persons knowing that combination can open the lock.

The lock is quite simple in construction and contains no "works" at least not as we understand the term. The body is a piece of solid brass rod. Fig. 1 shows a useful size, but anything near to that can be used. It had better, however, not be smaller for convenience in working.

The First Work

Using a sharp pointed instrument scribe a line along the middle of the top, then across the centre and down the face side. From this centre line measure off each side for the holes for the buckle. These holes should be $\frac{3}{16}$ in. diameter.

Carefully centre punch and drill the holes through the body almost to the bottom. It is essential for these holes to be parallel to each other. If you can do the job in a lathe you need have no difficulty, or, a hand drilling machine would be reliable if the body is accurately fixed below.

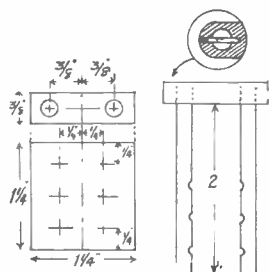


Fig. 1—The body marked out

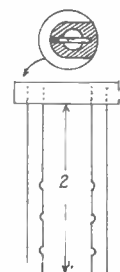


Fig. 2—Legs and Cross

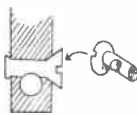


Fig. 3—The filed notch

to centre punch exactly at the right spots, both at top and bottom. also, when done, burr over the holes at the bottom to prevent the legs of the buckle coming through.

On the face side mark off and centre punch at the six spots shown for the pins. Drill these right through the block, $\frac{1}{16}$ in. diameter.

The pins are really brass screws, cut down. Get some $1\frac{1}{2}$ in. screws, with a $\frac{1}{8}$ in. thick shank, probably No. 8 size would be about right, but test them first through a $\frac{1}{8}$ in. hole drilled through a piece of metal.

Having drilled the holes, partly countersink them on the face side so the heads of the screws will sink in half-way.

The Legs

For the legs of the buckle cut two pieces of mild steel rod, $\frac{3}{16}$ in. thick, to the length given in Fig. 2 plus the thickness of the crossbar. This should be $\frac{1}{8}$ in. thick and is a slice off the same size bar as the body of the lock is cut from.

File this flat and cramp it to the body, both being truly in line. Cramp firmly, then push the drill through the holes all ready drilled and continue the holes through the crossbar. This will ensure that all are in line.

Tap in the legs, and to fix them drill a $\frac{1}{16}$ in. hole through the ends of the bar, right through the legs, and into the bar a little way further.

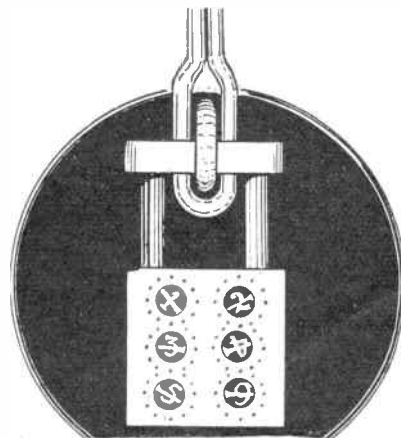
In these holes drive in steel pins and punch them well below the surface

Fill up the holes with solder. The inset, Fig. 2, will show what is meant.

Fitting the Buckle

Now take the pins, one at a time, and file in each leg of the buckle when they are in place the legs of the buckle can be pushed in. Fig. 3 shows what is meant, as normally the pins will obstruct the buckle.

Without removing the buckle or pins enlarge the slots in the latter



at one end, and where the narrow end points make a dot with the centre punch as shown in Fig. 4. Each pin head can then be numbered 1 to 6, either by engraving or by punching the numbers in with a series of small dents.

Round the screw head of each pin make 11 other dots at equal distance apart. The numbers for opening the lock will be the screw head numbers and the number of the dots the slots point to, the dots being counted as the figures on a clock dial.

For instance, on the finished drawing the numbers will be 1-11, 2-8, 3-9, 4-2, 5-4, 6-3.

Working the Combination

Remove the pins and with a small file make notches on the legs of the buckle, as in Fig. 2, where the pin holes come. Now replace the buckle, give the pins a turn, and the lock will be fast. Only when the pins point to their combination numbers can the buckle be withdrawn, and the lock opened.

Now cut off the ends of the screw pins to within $\frac{1}{16}$ in. of the body, and butt over the ends to prevent the pins coming out. Do this very carefully so as not to make them tight and hard to turn. The completed lock can now be used as already described.

A topical Navy and Army piece of work is this NOVEL BRUSH HOLDER



We are giving this week details for making the novel brush rack shown in the sketch. Now, this is to be quite a patriotic and useful piece, but it should nevertheless not take more than an hour or two to complete.

The figures of the Sailor and the Soldier add colour to the stand and it is intended that these should be painted up in bright enamel or ordinary oil paints. The two figures chosen are taken from a series now being published in Hobbies Weekly and it might be added that there is a long list of such figures that would work up very well in pairs such as shown here.

Figures to Use

In the list of these figures are included the Army, the W.A.A.F., A.T.S., W.R.N.S., Land Girls, etc., all very picturesque figures which can be paired off to make up these attractive stands.

It is suggested that these brush stands would make splendid gifts as they are simple to put together and paint, and take but little wood. This is all of one thickness, so there will be economy in the marking out of the patterns.

Suitable Wood Panels

Hobbies panels of mahogany, measuring 15ins. by 10½ins., and the half panels 10½ins. by 7½ins. are ideal for this purpose as they can be divided up with the square to cut as many of each part as the measurements will allow.

For instance, in cutting or plotting the bases which measure 5ins. by 3ins. nine of these can be got from one panel most conveniently with a strip to spare which will come in for the corner feet.

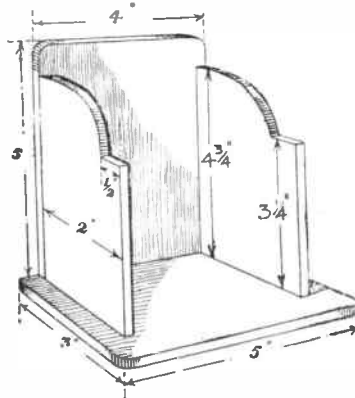


Fig. 1—General construction with dimensions of parts

It would be quite a good thing first of all to cut one of each part of the rack, one base, one side and one back and use these as templates for marking round on the panels direct. By placing these parts edge to edge it will be found that one cut in many cases will answer for the two parts thus minimising the fretcutting.

It only remains to assemble the parts after each has been cut and cleaned with glasspaper. Fig. 1 shows how the rack is put together, glue and a few small nails or screws being used as fixing.

The front being the chief feature of the rack requires some special care to detail. In Fig. 2 is given the two figures squared up with ½in. squares to facilitate enlarging to full size.

On a piece of 3, 16in. wood measuring 6ins. by 4½ins. draw in the lines as shown and then fill in all the interior work ready for painting or enamelling.

Enlarging the Picture

Another way to do the enlarging would be to do it on paper and to keep this as a pattern for transferring all the others, that is, of course, if a number is to be made up. The paper tracing should be carefully handled and pencilled over with carbon paper between it and the wood.

Clean the edges of the cut part with fine glasspaper before gluing it to the

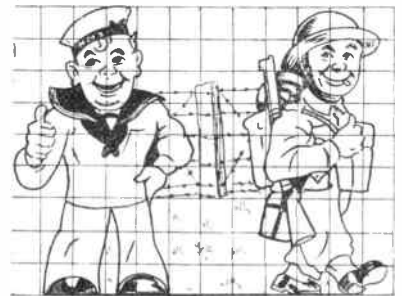


Fig. 2—Squared up for enlarging

rack. Choose bright paints and enamels and if necessary give each colour two coats to get sufficient "body" and to thoroughly cover and fill the grain of the wood beneath.

The wood rack itself may be coated with colour or it may be just stained up and oiled or waxed. The four feet will be marked out and cut last of all and glued to the corners of the base.

HOBBIES

is a household word for happy pastimes for the handyman. Now unfortunately it is impossible to fill the great and increasing demands because supplies are short and sometimes unobtainable. To make sure whether your needs for handiwork and home crafts can be supplied you should now enquire before ordering. You may be sure we will help you all we can. Call at a Hobbies Branch or write direct to

HOBBIES LIMITED, DEREHAM, NORFOLK

WRITING A STORY OR WAR EXPERIENCES?

Here is an infallible Guide to the Beginner's Success

The Art of Story Writing

In Cap. 8-vo. Black Leatherette. 5th Autographed edition.

(By a Famous Author). Writing the complete story in seven graduated stages, style, polish and professional "touch" speedily acquired. Its presentation, negotiation and chances of "acceptance." Also included "The Author's Guide (1941-2)" a complete and classified list of every Newspaper, Magazine and Periodical, its respective minimum and maximum Length for Article, Story and Serial "acceptable." The only published Guide of its kind. A veritable gold mine of essential facts that earns for you immediate profit from your writing. The previous publication had over 20,000 sold copies and this reprint is very strictly limited. Direct from the publishers.

STONE LITERARY AGENCY (Publishing Department H)
Established 1928. REDCAR, YORKS



Some Notes on NEW ISSUES

HAVE you ever considered what tremendous head-way there will be to make up in the stamp album when the war comes to an end? Most of the countries which are not at war are issuing stamps in much the same way as they did before the war, and some readers will recall that at least once a month these columns were taken up with news of these new issues. Now, however, news is difficult to get and illustrations extremely so.

Some time ago the writer suggested that readers should save up so that when the stamps which are now being issued come on to the market they will have the money to buy them. It was suggested then that readers should buy National Savings Stamps now and so put away the money which they would otherwise spend on postage stamps ready for the time when they can do so.

We have a few stamps to illustrate this week. The first is a specimen of the new issue for Sudan. A careful look at this illustration will lead one to think of the low values of the Niger Territory set of 1926 which showed us a picture of native wells.

The Sudanese values are 1, 2, 3, 4, 5, 10, 15 mils and 2, 3, 4, 5, 6, 8, 10, 20 piastres, and they are all of the same design. The piastres values are, however, larger than the millesimes.

One thing that readers will be glad to note is that all the English numerals are shown as well as the Arabic. This fact should be remembered because if you have any difficulty in finding out the face values of any of the early Turkish stamps—which

used the Arabic characters exclusively—you might try turning to the stamps of Sudan and use these to compare.

The second illustration is the new 2½d. value from Eire. This commemorates the revolution of 1916 when help was promised from Germany. The figure is an Irish Volunteer; the building the Dublin Post Office in which they were besieged before surrender.

Many countries have figures holding a bayonet as part of the stamp design—notably Bulgaria in 1917 commemorating the liberation of Macedonia. In 1934 Czechoslovakia had

the 100th anniversary of the formation of her army, and the 25 bani stamp showed a very strong picture of a butt stroke in bayonet fighting. Turkey in 1916, 1917, and 1920 showed soldiers with bayonets, but not in such warlike attitudes as those which have been mentioned.

Kenya, Tanganyika and Uganda have had to have some of the stamps of South Africa overprinted for use in that Colony, and as the coinage is different the stamps have been surcharged as well 5c on the 1d., 10c. on 3d., 20c. on 6d.

Since the South African stamps are



New Sudan Stamps

The Irish Rising of 1916

Temporary Kenya Stamps

stamps commemorating the 20th anniversary of the formation of the Czechoslovak Foreign Legion. One of the stamps shows French, Russian and Serbian Legionaries ready with bayonets.

In 1938 Czech Legionaries appear on a stamp which commemorates the 20th anniversary of battles in Russia, Italy and France. Some of the designs which appear on stamps such as these make curious pictures when looked at a few years later.

•Roumania in 1931 commemorated

printed in English and Afrikaans the stamps prepared for use in Kenya should be collected in pairs in the same way as if they were South African stamps.

With the war with Japan now an established fact no doubt many will be looking over their stamps of that country and the regions affected by this war. The stamps of the various Malay States are being changed, although these are not changes of design but of colour.

Duplicate Examination

Consequently, one needs to look carefully at all that come along because there is always a tendency when examining other people's duplicates before making an exchange to note just the values and say for example "Oh, Straits Settlements 2 cents, I've got that." You must remember the colour of the old 2c. was green, but the new 2c. is yellow, although the design is practically the same. The shading behind the head however, is more distinct in the later issue.

For those who go in for varieties of perforation there is a new issue of the 2d. Victoria Falls of Southern Rhodesia. The new one is perforated 14. There is also another small change which will bring it into the wants of all—the words "Postage and Revenue" have been added at the top of the frame.



Helping the War with Models

WARSHIP Weeks and other efforts to raise money for the War can be aided by the use of some of the excellent models our readers make. Here is an instance from Leicester. Mr. T. Pole of 23 Burns St. made the model H.M.S. Hood from our design, for the South Wigston War Fund, and when the picture was sent in had collected £20 with it. The model is stood on top of a collecting box bearing the words "Help us to Help the Boys."

A simple-to-make and easy-to-handle PORTABLE FIRE-FIGHTING UNIT

THAT England is becoming 'fire-guard' minded is shown by the numerous items of 'home-made' fire-fighting equipment that handy-men are turning out up and down the country.

The 'item' described here is a mobile pump unit, designed and made by a Cheshire party. It consists essentially of a light trolley upon which is permanently mounted a 60-gallon oil drum and a 'Pioneer' stirrup pump; the intake of the pump being connected to the drum by a short lead.

Pulled by Children

So easily does the unit run that a couple of children can move it, even when fully loaded, and it arrives at the scene of an outbreak with water for no less than 45 minutes of pump action, which should be ample for most jobs. A good long hose for feed-water, however, is supplied. The delivery hose also has been lengthened so all rooms in the area concerned can be reached from front or back door positions.

The unit is simple of construction and well worth copying. Certain parts, like the drum and pump, must of course be bought, but otherwise the unit is made throughout of wood. For quickness of manufacture and sturdiness, bolts have been used at all major joints.

The body consists of two main members (a) and (b), 3ft. 2ins. long and 4ins. by 2ins. section. On these rests the frame (A) which is built up of two side pieces 2ft. 9ins. by 2ins. by 1in. and end-pieces 1ft. 10ins. by 2ins. by 1½ins. Six cross-bars (f), of 2½ins. by ½in. section, are spaced down the whole frame as indicated, the ends being recessed into the lower edges of the sides.

At what will be the front-end of the main members goes the block (c), 10ins. by 5ins. by 2ins. Upon this the pump is fastened by the bracket (m), this being two angles of iron



which any blacksmith will make for a few pence.

To secure the pump, the usual 'foot' is removed, the end unscrewed and two bolts then dropped through the holes (then apparent) and through two similar holes in the cross-bar of the bracket.

Suitable Pump

The adaption is quite simple and should be made clear by the sketch (n). Any stirrup pump could be adapted, but the use of a 'Pioneer' is recommended, as on the unit illustrated.

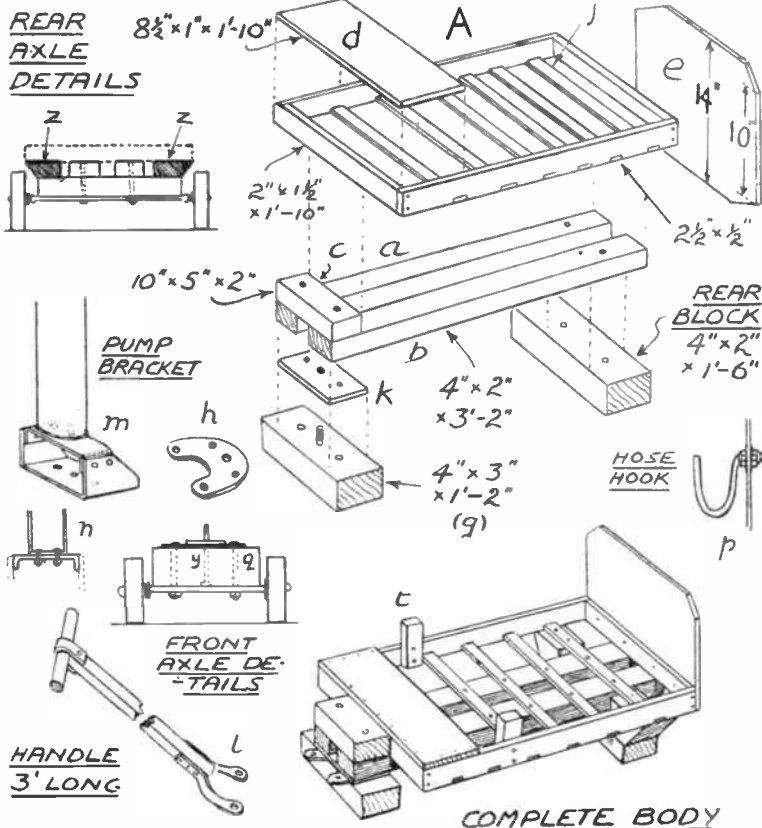
For assembling the frame is laid on the main members spaced 2ins. apart, and holes for bolts drilled at the points of inter-section as shown. Ten 3in. bolts and four 5in. bolts are required for this part.

The 5in. bolts are for the front block (c), and for the back axle-block (e) fit at this juncture the back-board (e) and the floor for standing on (d); the dimensions of each being given in the diagrams.

Steering

Steering is possible with the front axle, and a little studying of the sketches will show how this is effected. Under the main members (a) and (b), and right below the block (c), is the metal plate (k), 10ins. by 5ins., cut from any ½in. material and bored in the centre and at points corresponding to the bolt-holes in (c); the main members, (k) and (c) all being held tightly together by the two 5in. bolts.

The swivelling part consists of the block (g), 4ins. by 3ins. by 1ft. 2ins., upon the top of which goes the plate (h), and below which the axle is secured by the same two bolts. A

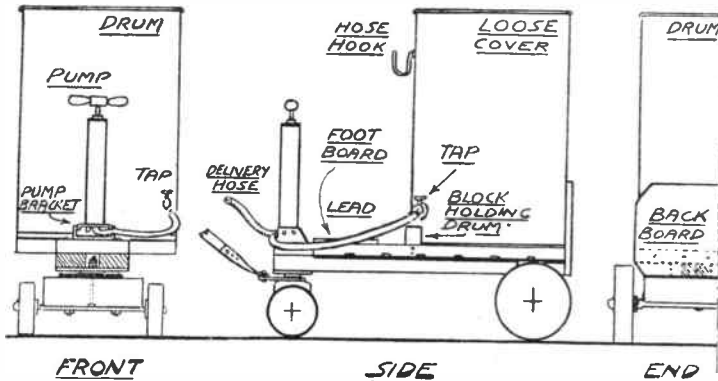


A diagram of the various parts lettered for constructional detail

single 5in. bolt goes right up the centre to act as pivot.

Assemblage is effected by passing this centre-bolt through the centre hole in (k) and finishing by a large washer and two nuts for locking

here is the fitting of the two blocks (z) which nearly double the effective bearing width of the complete assembly and some care in fitting should be exercised to see they actually take the weight of the outer sides of the frame.



Three helpful details showing position of apparatus on the truck

purposes. The front elevation makes this clear.

For the handle it is best, if possible, to obtain one from an old lawnmower, as the parts for connections are all there ready-made. If this cannot be done a handle can be built up as shown. The two lower strips (i), it will be noted, are heated and twisted to agree with the end of the plate (h), the two being held together by small bolts.

Back-axle assembly is somewhat similar, but here the two bolts which hold the axle go straight through the main members. An important point

Wheels and axles generally can be picked up from junk stores, and if they do not fasten to the axle-blocks as the ones described, suitable modifications will have to be made; but these should not be hard. The wheels, incidentally, must be of the fairly sturdy 'truck' variety, as 60 gallons of water plus the operator, who stands on the trolley, make a fairly heavy load.

The drum is of the usual oil variety and simply rests on the trolley. It is held from side movement by the blocks (t) and contact with the back (e).

It (the drum) is now prepared by screwing up any bung-hole it may have and chiselling off an end, so that when in position the top can be opened. A hook (p) made from any odd length of iron, and held by two nuts, is also fitted to take the delivery hose.

The lead to the intake of the pump is attached to the drum by the simple measure of using an ordinary tap. This attaches to the drum by drilling a suitable-sized hole, putting the end of the faucet through and screwing up tightly the collar supplied. The hose is then fastened to the tap by one of the 'tap connections' that can be bought at any ironmongers. The tap thus acts as the simplest of connections and as a stop-cock.

Beyond a coat of red paint and a length of cork or rubber matting on the foot-board (d) the unit is now complete. The delivery hose of the pump in the unit illustrated has been extended to 40 feet, but this length could be varied according to the special area the unit has to cover. The replenishing hose in this case is 60 feet.

The operator, it should be noted, stands on the trolley (i.e. on (d)), which gives him an excellent position well over the pump handle, and the complete unit should have on board sand-bags and scoops. A chunk of wood for scotching the wheels when in action should be carried also. Finally, it will be noted, that a good number of iron parts have been mentioned, but these can all be made very readily at any blacksmiths at a small cost.

MISCELLANEOUS ADVERTISEMENTS, etc.

The advertisements are inserted at the rate of 2d. per word or group of letters prepaid. Postal Order and Stamps must accompany the order, and the advertisements will be inserted in the earliest issue. Fretwork goods or those shown in Hobbies Handbook not accepted. Orders can be sent to Hobbies Weekly, Advertisement Dept., as below.

MONOMARK. Confidential London address. Letters redirected immediately. 5s. p.a. — Write BM/MONO28, W.C.1.

LONELY! Then write Secretary, U.C.C., 5 B.B. Hay Street, Braughing, Herts. Genuine. Est. 1905.

WILSON LORRIES. Britain's finest scale model road vehicles. Available built up and in kit form. Eleven splendid easy-to-build kits available. Send for Britain's finest Miniature Lorry Catalogue ever produced, 6d. post free. 4 m.m. scale (OO gauge) and 7 m.m. (O gauge).—D. Murray Wilson, Dept. H, South Moreton, Didcot, Berks.

STAMPS, Foreign and Colonials. 1/-, 2/6 packets, with Free Gift. OLD accumulations and collections of stamps wanted for cash or exchanged other items.—2, Station Approach, West Drayton, Mddx.

BE TALLER!! Quickly!! Safely!! Privately!! Details 6d. stamp.—Malcolm Ross, Height - Specialist, BM/HYTE, London, W.C.1.

FRETWOOD is now very scarce, and normal supplies cannot be offered. Some timbers, however, are still offered in planed boards, but your needs and date of delivery should be enquired first.—Hobbies Ltd., Dereham.

CONVERT YOUR SILENT CINE PROJECTOR for Sound. "Practical Sound Conversion for Amateurs" shows you how (materials available). 5/6, post free, from Benson (H), 88 Greenfield Avenue, Carpenders Park, Watford, Herts.

TOOLS for Handymen are scarce. All orders cannot be filled immediately. Make sure whether they are obtainable before ordering.—Hobbies Ltd., Dereham, Norfolk.

STAMPS. Nice selections sent on approval. State if only interested in Colonials.—R. Park, 8 Abbotsford Road, Blundellsands, Liverpool.

FRETSAWS—Hobbies British made —8½d. per dozen in various grades. From Hobbies Branches or by post (2½d. extra) from Hobbies Ltd., Dereham, Norfolk.

TIMBER—ash, oak and beech squares—dry—12 to 72in. lengths in 1½in. by 1½in., 1¾in. by 1¾in., 1½in. by 1½in.—Apply Churchill Johnson Ltd., Vange, Essex.

HOBBIES still make Fretwork Outfits and Machines, but owing to war needs supplies are short and immediate delivery cannot be guaranteed. Make enquiries before you order.—Hobbies Ltd., Dereham, Norfolk.

Hobbies Weekly—2d. every Wednesday—Subscription Rate 14/- per year or 7/- half year. Registered for transmission Canadian Magazine Post. Editorial Offices, Dereham, Norfolk. Advertising Dept., Dereham or Temple House, Tallis Street, London, E.C.4. Hobbies Branch shops at 78a New Oxford Street, London, W.C.1. 87 Old Broad Street, London, E.C.2. 326 Argyle Street, Glasgow. 10 Piccadilly, Manchester. 4 St. Paul's Parade, Sheffield. 10 Queen Victor a Street, Leeds. 25 Bernard Street, Southampton. 14, Anlaby Road, Hull. 14 Bull Ring, Birmingham.

Printed by BALDING & MANSELL, London and Wisbech, and Published for the Proprietors, HOBBIES LTD., by HORACE MARSHALL & SON, LTD., Temple House, Tallis Street, E.C.4. Sole Agents for Australia and New Zealand: Gordon & Gotch (A'sia) Ltd. For South Africa: Central News Agency Ltd. Registered for transmission by Canadian Magazine Post.