FREE NEWSPAPER RACK DESIGN INSIDE

Hobbies WEEKLY

November 11th, 1942 Price Twopence Vol. 95. No. 2456

Making and fixing a Clockwork

MODEL R.A.F. TRACTOR

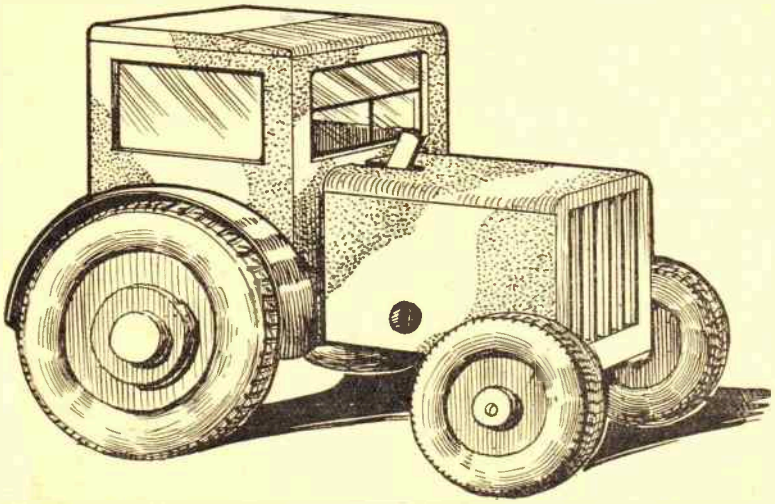
HERE is another of those interesting clockwork models which have proved so popular. It is of a Tractor, such as is used by the R.A.F. at their aerodromes. This model is of a really good workable size, being made to accommodate a Meccano motor which, no doubt, many model makers possess.

The actual length of the tractor is 12ins.; its width 7ins., and the length 9¼ins. So from these measurements it will be seen that all parts are large to handle and any shaping up can therefore be comfortably done with rasp and file.

Wood Required

Wood ¼in. thick is used for all parts, except the roof of the cab, the top of the bonnet and the outer and inner sections of all the wheels. These pieces are ⅜in. thick and can be of some soft wood such as deal.

The model is made up in three distinct sections. There is the cabin and the bonnet in front of it, both built upon a common one-piece chassis or floor. Next, the large pair of driving wheels, and thirdly, the front small wheels which are connected to a turntable, enabling the tractor to be steered at will by turning the wheels in any direction.



The driving motor is fixed inside the bonnet in quite the appropriate place for it, and from a small pulley attached, a driving belt is carried back to a larger pulley fixed to the axle of the large wheels.

Thus by having the pulleys of properly geared sizes, ample power is gained for running the tractor at good speed. Of course, the large pulley can be either reduced or increased in size according to the speed required.

Having, then, explained the tractor in outline, we will go forward with its construction in detail. The diagrams included here should be found ample to assist the worker in making a first-class working model.

First Operation

The floor is the first item to make. This is shown in Fig. 1 with all the necessary measurements. The oblong openings cut from the middle of the floor are for the reception of the motor and for the pulley wheel which is on the main axle.

In the diagram Fig. 1 the opening for the motor is on the left. It should be noted that it is made centrally in the piece, whereas the opening behind it is to one side. This is explained by a glance at the

working diagram Fig. 2, which shows the motor installed and its fixing to the floor, as well as the position of the back axle and the large driving pulley wheel complete with belt.

The latter may pass over the pulleys direct as shown by the solid lines, or the belt may cross, as shown by the dotted lines, getting thereby a firmer grip on the pulleys. The forward drive of the belt must, of course, be arranged by the change gear or reversing handle on the motor.

Cut out with the fretsaw the floor section A and clean up the edges with glasspaper. Next draw out and cut the two sides B. All the necessary measurements are included for this in Fig. 3.

The holes in these pieces for the

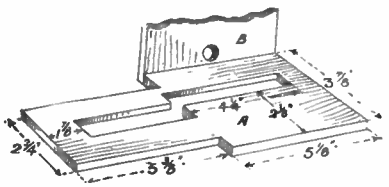


Fig. 1—Motor opening and floor

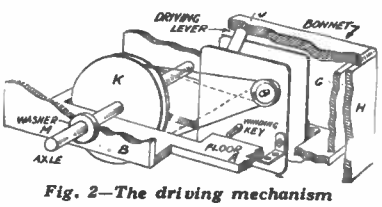


Fig. 2—The driving mechanism

passage of the axle are central and their centres are ½in. up from the lower edge of the wood. Glue the two pieces to the floor A as shown in Figs. 2 and 3 and then proceed to fill in the front of the cab with pieces C and D.

The Cab Front

Piece C is 3⅞ins. wide and 3⅛ins. high, and the measurements for the slot to be cut from this piece are given in Fig. 3. There are two pieces of D, each 2½ins. long and ½in. square in section, and they are to be glued to the upper parts of the sides B just as shown in Fig. 3.

Piece E which is added to complete the frame of the front, is 3⅜ins. long and again ½in. square in section.

Having glued up all the foregoing parts and put in a few fine fret pins to give added strength, the next part to add will be the roof F.

This measures 5⅛ins. by 4⅞ins. by ⅜in. thick. After cutting the wood to size, the front portion for about half its width is tapered off slightly towards the front (Fig. 3). The roof is glued on and a pin or two added for strength. The back and front edge of it, too, is rounded off neatly and glasspapered up smooth.

Fitting the Motor

It is at this stage of construction that the motor should be added. In Fig. 2 the method of fitting and fixing it is shown. It is dropped into its opening until its top edge is level with the top of the opening in piece C. Two or more angle brackets fasten it to the floor as seen in the sectional diagram Fig. 2.

The metal angle plates included in a Meccano outfit would answer this purpose admirably. Take care to fit the motor as shown, with the winding spindle on the left, and the small pulley just above it.

The bonnet of the tractor is to be made removable. It consists of pieces G, H, I and J glued and pinned together and afterwards fitted over the motor and secured to the floor with four screws, two on each side of the bonnet.

The piece G of the bonnet falls flush on to the top surface of the floor, thus affording an immediate and easy means of fitting when the bonnet is removed. The position of piece G is plainly seen in the sectional diagram Fig. 2.

Driving Wheels

The two driving wheels and their axle are now made and fitted. In the

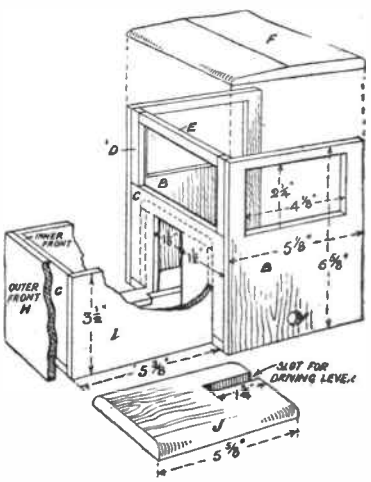


Fig. 3—Construction of cab

actual tractor which we are attempting to represent in model form, these wheels are very heavy looking and, perhaps, appear somewhat clumsy. We, therefore, make them up in layered sections to get the true appearance of the tyres.

Fig. 4 is a section of a wheel showing N as being a plain disc of wood 5½ins. in diameter and ¼in. thick. At each side and flush with its outer edge, rings of ⅜in. wood O are glued on. These are 5½ins. diameter, the same as the disc, but 1in. wide.

Tyre Tread

When the glue has hardened, the task of shaping the tread of the wheel to a semi-circle can be done with the rasp and also the inner curves can be worked in the same way. This latter shaping, however, would best be done before the rings are glued on to the discs ; they are better and much easier to handle this way.

There are smaller discs to be cut next and glued on, shown as P and Q. The larger discs P are 2ins. in diam., while those glued over them are 1in. in diameter. All our discs are 3 16in. thick and have holes cut in their centres ⅜in. diam. for the axle.

The shaping of the outer rings of these large wheels is best done with a 4in. wood rasp. This gets most of the unwanted wood away quickly. It needs then only file and glasspaper to make a finished and smooth job.

The Grooved Wheel

The grooved wheel K has next to be made, and two discs of either ⅛in. or 3 16in. wood glued together will form this. Before the two parts are glued together, chamfer off one edge of each disc, so they are fixed with the chamfers facing each other. An admirable vee-shaped groove is thus formed to grip the driving belt.

A ⅜in. hole is cut in the centre of the wheel and through this a piece of ⅜in. diam. dowelling is pushed, while the grooved wheel is held in place in the inside opening of the cabin floor, the axle being, of course, also threaded through the holes in the side of the cabin. This process is simply explained in the diagram of the axle in Fig. 2.

To hold the axle in its proper place, so the wheel K is central, two washers M are added on the axle just outside the walls of the cab.

It is eventually up against these washers that the completed driving wheels are glued on.

Testing the Mechanism

At this stage the mechanism can be tested. The axle must work freely in its bearing and note taken that there is no "slip" between driving wheels, grooved wheel and the axle. A belt can be put over the two working grooved wheels and the motor started. Any adjustments necessary

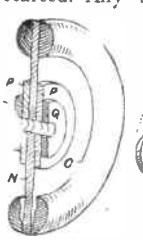


Fig. 4—The wheel parts

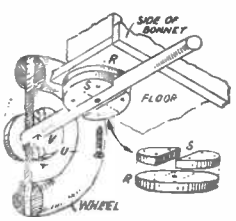


Fig. 5—The axle fitting

can now be made before the bonnet is finally put on.

It only remains now to make the front wheels and their axle and turntable. The former are made in a similar manner to the large driving wheels, and the section of the wheel in Fig. 5 explains the various parts.

The disc T is 3½ins. in diameter and 3/16in. thick, and the rings U glued on each side of it are ⅜in. wide and cut from ¼in. thick wood. Two washers V are cut, one is glued to the disc inside, the other to the axle bar.

(To be concluded)

Great fun is provided for Christmas by making

GLASS TOP PUZZLES

CHRISTMAS is the time when our thoughts turn to ghosts and snow—and presents! So, in regard to the latter, what could be more appropriate than the two "spooky" and "snowy" glass-top puzzles we offer this week, one of which is shown herewith?

The puzzles are very simply constructed and only odds and ends of wood, card and glass are needed. To help you make a success of the puzzles, we have managed to provide full-size drawings on Cover iv of this issue.

Great care must be exercised when cutting out the shapes, particularly the "ball" channels, otherwise the steel balls may become wedged in channels that are unevenly cut or cut too narrow.

Adhering the Drawings

The drawings for the "Spook" and "Snowman" are pasted to pieces of ¼in. fretwood about 5¼ins. long by 3¼ins. wide. When applying the paste (to the wood and not to the back of the paper drawing), do not be too liberal and try to avoid getting any paste on the fingers. It is so easy to "mess up" the face of the drawing when there is an excess of paste. The best and safest plan, therefore, is to use as little paste as possible, lay on the paper drawing carefully and press it down firmly with a soft dry cloth.

When dry, fit the handframe with a fine fretsaw blade (fine blades give nice shiny smooth edges to shapes and such is essential in the puzzles) and cut to the outside of the heavy lines. Do not go to extremes, by the way, meaning that, in trying to avoid cutting inside the black lines you leave small patches of white showing. Just keep neatly to the edge of the line.

The Ball Hole Positions

The ball channels, as we have stated, must be accurately cut in width. Each channel you will notice ends in a tiny curl that forms a hole for each ball. These are provided to "hold" the balls in a temporary fashion whilst the rest are "juggled" into their positions.

There are three ball positions in the "Spook" puzzle, one being under the chin of the head, the other two being situated under the arms (if one can call them arms!) In respect to the "Snowman" puzzle, there are four positions, which makes this puzzle really tricky.

One hole position is in the hat, another in the knot of the muffler or scarf, the other two being at the left and right hand, near the waist. When cutting, hold the saw as vertical as possible, apart from cutting the four channels accurately in width, for sloping edges are just as bad as unequal widths.

Fitting Up

Having removed the "waste" portions from the interior of both puzzles, trim the outside neatly. A piece of stout cardboard 5ins. long by 3¼ins. wide is glued to the underside of the overlays. You could use a piece of ⅛in. wood, of course, but cardboard serves as well.

Apply the glue to the back of the overlays, then press them down on the cardboard. This is to avoid putting glue on the exposed parts of the cardboard; do not shift the overlay about while pressing it on the cardboard, as you are liable to mark the latter just as badly and also clog up the ball channels with the glue.

When the glue has set (the glued work should be placed under heavy books to prevent the cardboard curling away), obtain two pieces of thin plain glass and set one piece over the top of each puzzle, first putting the steel balls in the "Spook" puzzle overlay and four of them in the "Snowman" overlay.

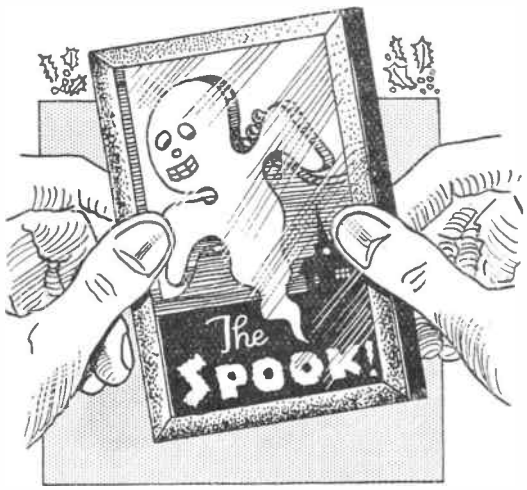
Steel Balls

The steel balls used are slightly less than ⅛in. in diameter. They are bicycle wheel hub ball-bearings and are obtainable at most bicycle supply shops.

The glass is held in position by means of picture banding called passe partout strip, the finish being imitation black leatherette. In fact, the puzzles are built up as one builds up a passe partout picture.

Failing the proper gummed banding, however, ordinary black or brown paper could be used. It could be prepared as one long strip, as shown on the pattern page, or made in single pieces.

You will probably find the latter method more convenient. Glue the mitred edges of the strips along the edges of the glass first, keeping them in ¼in. Set the glass over the work, then bend down the paper and turn it over on to the cardboard at the back. No need to worry about mitres here as a butt-overlap joint serves.



For Full-size Patterns see Cover iv

Substitute for Glass

Now, assuming you cannot obtain suitable pieces of glass, one could use plain celluloid sheeting, or alternatively, merely glue a sheet of Cellophane paper over the overlay, gum or glue being applied to the ¼in. margin showing all round each overlay.

Have the transparent paper stretched free from wrinkles as much as possible. If you cannot remove the wrinkles, especially small waves and creases, it is possible that these will dry out. Cellophane paper usually becomes as tight as a drum when adhered to any sort of framework, such as the puzzle overlays provide.

The Puzzles in Use

The idea of the puzzles is, of course, to manipulate the steel balls into their positions. It is easy getting two balls into position, but while attempting to get the third or fourth ball into place, one is apt to upset the already placed balls which, naturally, have to be replaced again.

Thus one must use caution. Indeed, some amount of skill is needed in juggling the steel balls into position, not to mention patience.

Some Metric Equivalents

1 *decimeter*	=	4 *inches*
1 *meter*	=	1·1 *yards.*
1 *kilometer*	=	⅝ *mile.*
1 *hectare*	=	2½ *acres.*
1 *litre*	=	1·06 *quart.*
1 *hectolitre*	=	2⅝ *bshls.*
1 *kilogram*	=	2⅕ *lbs.*
1 *metric ton*	=	2200 *lbs.*

COLONIES AND COMBINATIONS

THE last Stamp Notes concerned the States of Aden. Possibly some received the news of these with a worried expression as to where you were going to put them pending the time that you could obtain suitable pages for your album. Well the best thing that you can do is to keep them with those of Aden proper.

This week we will try to clear up some of the other problems of a like nature that may be troubling a few of you.

Union of Australia

Suppose we start off with a couple of easy examples. Australia, philatelically, is a union of New South Wales, Victoria, Queensland, South Australia, Western Australia and Tasmania. It was on January 1st, 1901 that the six states came under one Federal Government which first issued stamps in 1913.

As the six states, however, had issued so many stamps previously, you will always find plenty of space in the album to put the respective stamps correctly. By the way, be careful, those of you who have just started collecting, that you do not put the stamps of Queen Victoria which belong to those of the British Isles in the place for Victoria.

Dominion of Canada

Practically the same thing applies to the stamps of the Dominion of Canada, except that the British North America Act passed in 1867, certain provinces were united with the provision for the admission at any subsequent date of the other provinces.

Ontario and Quebec were the first to form together ; British Columbia and Vancouver were admitted in 1871, Prince Edward Island in 1873, New Brunswick and Nova Scotia had come in in 1868.

Lack of Spaces

These, like the separate States of Australia, should have separate places in the album, but as the date was so much earlier there had not been very many stamps issued before the union took place. Consequently it is not very likely that readers will have many of these stamps to put in to the album. Should you have any at all, then they should be placed at the start of the Canadian stamps.

Should you wish to have any of these—and a specimen or two will help you to remember that the Canadian States were not always together—you can buy the cheaper of them for a couple of shillings each, or thereabouts.

You may find that you have a page for the stamps of Swaziland, which is a curious case from the philatelic point of view. Stamps were first issued in 1889, but in 1895 it was incorporated in the South African Republic and then its stamps were recalled.

Swaziland

But in 1933 Swaziland again started to issue its own, so that even if you do not possess any of the earlier issues, there is no reason why some of the current stamps should not come your way as the lower values are quite common.

Another Colony that stopped issuing stamps was Tobago. This island issued stamps until 1896, but after that date it used the stamps of Trinidad. Then, in 1913, the title on the stamps was Trinidad and Tobago, and that is how the stamps are termed now. Any space allowed in the album for Tobago will apply to those which came out prior to 1896.

Postmark Identification

One point that should be noted about the stamps of the Australian States is that from January, 1860, to November of the same year, current stamps of New South Wales were used in Queensland. The only way in which you can tell these is to look for the Queensland postmark. If you find one, then the New South Wales stamp should correctly be put in the space for Queensland.

Aitutaki, Rarotonga and Penryhn Island are in a group of islands found in the Pacific, known as the Cook Islands. These were annexed to New Zealand in 1901. In 1902, however, New Zealand stamps were overprinted for use in Penryhn Island, in 1903 for Aitutaki and in 1919 for Rarotonga. Then, in 1932, the Cook Islands issued stamps and these three islands had to use them.

Northern Nigeria and Southern Nigeria both issued their own stamps, the first in 1900, the latter in 1901. In 1914 they combined and used one common set Nigeria.

African Colonies

Another region which is rather complex for the collector is that which goes under the name of Kenya, Uganda and Tanganyika. Formerly Kenya was known as British East Africa. Uganda first came to our notice philatelically under the title East Africa and Uganda, whilst Tanganyika was the old German East Africa.

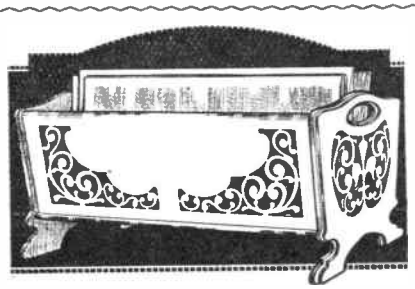
In 1922 we have the issue of Kenya and Uganda, but in 1935 there was the combined set for Kenya, Uganda and Tanganyika. Probably the first stamps that the majority will have from Tanganyika will be those of the 1912 issue of Kenya and Uganda overprinted G.E.A. These are quite common, but the previous issues are rather expensive.

Watermarks

The importance of watermarks is very well illustrated here. There were two types of watermark for the higher values of the 1922 issue—Script C.A. either sideways or upwards. The approximate values of the 1/-, 5/- and £1 with the sideways watermark is about 5/-, 22/6 and 90/-. The same values of the upwards watermark are worth 4/-, 12/- and 50/- respectively ; these, of course, being the values of the unused stamps.

For Specialists

Now it is not suggested that you should try to remember all the dates, etc. mentioned here, but if you are attempting to specialise in any of the countries, then you must certainly take count of those parts which concern the country you like.



Design for a NEWSPAPER HOLDER

With this issue we give a design sheet (No. 2456) containing patterns for a useful and easily-made table newspaper rack. A complete parcel of wood is also obtainable for it from Hobbies Ltd. It contains planed boards sufficient for all parts and costs 8/11 at any Hobbies Branch or is sent post free from Dereham for 9/6.

See the trunk go up and down as you pull this

MECHANICAL ELEPHANT

THIS is a pleasing toy to make for a kiddie. It is a mechanical elephant that swings its trunk as the toy is pulled along. It is easily cut in any normal wood.

The chassis part, Fig. 1, can be made of fretwood, ¼in. thick or, as economy in such woods is desirable, deal ⅜in. thick. Two 9ins. by 4ins. panels of softwood would serve both for chassis and wheels.

Having cut the pieces to size in the top, cut the front slot ½in. wide and the two slots near the rear ⅜in. long, and as wide as the fretwood used for the elephant is thick.

The Platform

On the sides of the chassis draw a line along ¾in. from the top edges. On this and at 4ins. apart, bore two ¼in. holes for the axles. Fix the sides to the top with screws so that one at least can be removed later to fit the axles in.

The elephant is best cut from hardwood ¼in. thick. This is drawn over 1in. squares in Fig. 2. Copy the squares on thin paper and trace the outline of the elephant.

Transfer this through carbon paper on to the fretwood and cut out, two being required. The tenons on the legs are ⅜in. long. On one elephant shape, mark with an awl the place for the pin on which the trunk swings, shown by a spot under the eye of the elephant.

The Centre Piece

A third shape is wanted. This is traced through on the fretwood in the same manner but a difference in outline is required, the legs being omitted and an opening provided for the trunk to move in.

Start the tracing at A and go from there to B, here cut across on the dotted lines until C is reached, then follow the dotted curve to A.

Sandwich this piece between the other two and fix together with a couple of screws. Use no glue as it may be necessary to remove the centre later for purpose of adjustment. Stand the elephant on the chassis, with its rear tenons on their respective slots. See the animal is central and then pencil round the front tenons. Cut the slots for these in the chassis and glue the elephant in position.

Now trace the trunk on to the fretwood and cut out. Where shown by the dot, bore a hole for the pin. As it is proposed to use a thin nail for this pin, let the hole be large enough to swing easily on it.

It will be advisable to give the trunk a good rubbing with glasspaper or it may stick when in position. Another point, which may be mentioned here, is the advisability of painting the trunk before fitting it in.

At the short end, where shown, drive in a tiny screw-eye, or if a suitable eye is not available, a fretwork nail would serve if the head sticks out enough for the connecting cord to tie to.

Now slip the trunk in its place and drive in the pin. Try it; it must swing freely if the toy is to work satisfactorily.

Axle and Wheels

The front axle, etc., is shown in Fig. 3. The wheels are cut from fretwood or ⅜in. deal. The axle itself is a length of ¼in. dowel rod. To make the crank shown in the centre which moves the trunk, first cut two discs of wood to size, as at D, Fig. 4.

In the centre of each, bore a ¼in. hole, and then a second ¼in. hole to just touch it. Glue these discs to the axle at its centre. See they are ¼in. apart, and the second holes in line, and in these latter holes glue a short piece of the dowel rod. Leave until the glue is hard, then saw out the axle between the discs, leaving a crank, as at E.

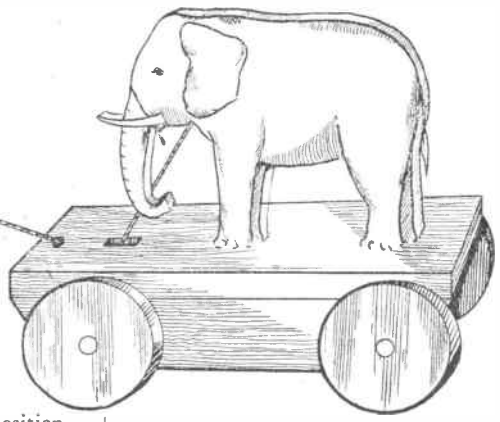
The rear wheels and axle are as in Fig. 3, without the crank. Remove one side of the chassis, and fit the axles in place. Refix the side again and glue the wheels on. Now to set the mechanism.

To the trunk tie a thin connecting cord, and draw this cord through the slot in the chassis and tie rather loosely to the crank. When the latter is at its highest point, as in Fig. 3, the trunk should be down.

If the toy is drawn along the trunk will rise, dropping again of its own weight as the crank comes up again. If the opening in the head of the elephant is not large enough to allow the trunk full movement, then it is an easy matter to remove the screws, take out the middle part and enlarge the opening. Get this right.

To finish the toy, bore a small hole in the rear of the elephant and glue therein a piece of string, with one end frayed out for a tail.

Paint the elephant and wheels grey and the remainder green, or other colour handy. The eyes and other details can be put in with a fine brush and black paint. Fix a cord for pulling the toy along to finish the job.



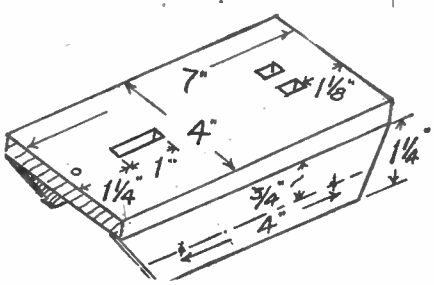


Fig. 1—Detail of the platform

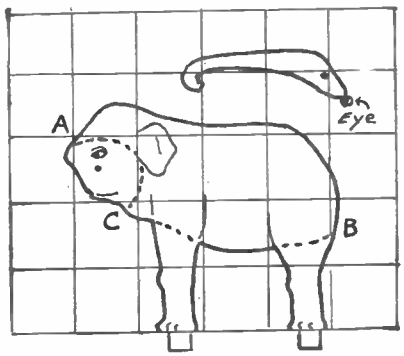


Fig. 2—The parts in 1in. squares

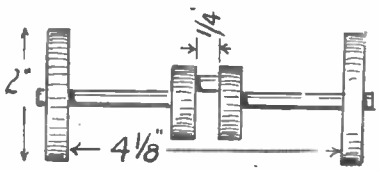


Fig. 3—Front view of axle

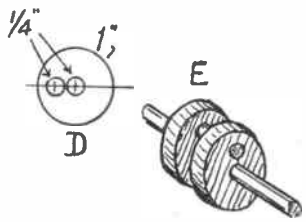


Fig. 4—Details of axle

A splendid job for the home carpenter is to make a

BEDSIDE BOOKSTAND

HERE is a simple yet very effective electric lamp stand in the form of a book rack. There is also a useful little drawer in which might be kept the assortment of small articles which accumulate in any home. Simplicity is the key note of construction, and it must be said that there are no difficult joints. Indeed, there is no work in it which calls for more than the usual kit of household tools.

The fretsaw will cut the shaped parts, and it may be used also for cutting most of the other parts which have straight edges.

The First Work

A small fine-tooth tenon saw may, however, be used for cutting the straight-sided pieces, but care must be taken to allow for the width of the saw-cut in this case as, of course, it makes a much wider cut than an ordinary fretsaw blade. So certain allowances must be made while outlining the pieces in pencil on the wood, and the saw should always work to the outer thickness of the drawn line. Remember always that it is easier to plane away wood than it is to make up or patch up with plastic wood of thin fillets.

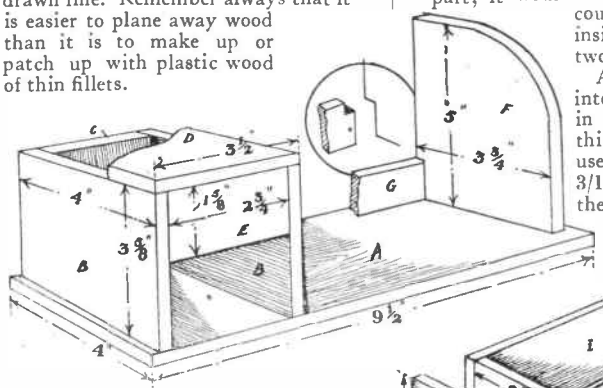


Fig. 2—Showing general construction with helpful dimensions

A 4in. wood rasp will be found ideal for forming the rounded edges of the drawer section of the design. This tool will take off easily and quickly most of the wood required to be taken away before the finishing with file and glasspaper.

Wood Required

Boards of ⅜in. wood should be chosen for the base and the main parts of the design, and in draughting out the various pieces on the wood use a tee square and a set square to ensure perfect right-angles before cutting is commenced.

The construction of the stand is plainly seen in the sketch of the finished article in Fig. 1, and in the details Fig. 2. The base will be the first part to true up, and upon this the drawer and lamp stand will first be fixed.

Box Construction

A box-like construction made up of parts B, C, D and E will be glued up and the top edges rounded off neatly. A complete cutting list is given here, and from this, each part can be drawn out on the wood and afterwards cut and the edges finished ready for assembly.

If it is found necessary to put in some screws to strengthen the box, the heads of these should be well sunk below the surface and the tops then filled later with plastic wood. Do not, however, put any screws down through the top D because the heads will stand in the way when the shaping is done to the two edges. If it is really necessary to strengthen this part, it would be best to put in a couple of glued fillets inside the box in the two angles.

A drawer to fit into the box is shown in Fig. 3. All one thickness of wood is used for this, viz., 3/16in. Here, again, the gluing up may be

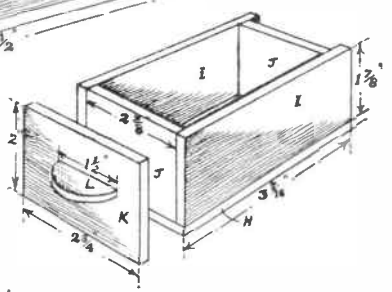


Fig. 3—Detail of the drawer parts

reinforced by some brass screws put in wherever possible. Note carefully how the various parts of the drawer are assembled, and before putting on the front (K) glasspaper all the surfaces thoroughly to leave the joints clean.

As before advised in these columns, the home woodworker should provide himself with a good flat piece of stout board to which to glue on a sheet of glasspaper. Any broad surfaces are

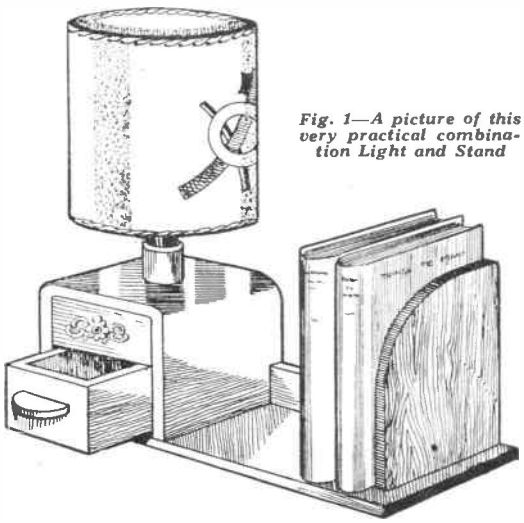


Fig. 1—A picture of this very practical combination Light and Stand

easily cleaned on this, and there is little fear of "dubbing" down these edges, which should be kept clean and even. This board, too, will be found admirable when cleaning off or making rounded edges to small parts.

The Drawer

Before making the drawer, the measurements of the actual front opening should be taken to ensure accuracy of fit. Then, if these measurements are worked "full," the sides, etc., may be rubbed down as suggested until an absolutely neat fit is gained. The front (K) of the drawer is, of course, all important as regards a good fit.

A clean hole is next made in the centre of the top (J) to admit the brass screw shank of the electric lamp fitting. Or, if desired to raise the latter a trifle to get added height to the shade, a base consisting of a round piece of wood with a hole up the middle may be fixed on as shown in Fig. 1. The electric fitting can then be screwed into this added part.

The Book End

The shape of the book end rest (F) is easily draughted out and then cut and cleaned up. It is screwed to the base, or may be dowelled on. The latter would make the more secure fixing in view of the fact that the grain of the wood running vertically a none too good fixing can be got with screws.

If dowelling is used, the holes require to be carefully bored to ensure that the dowels run straight and true into the upright. They should be of hardwood and dipped into glue and driven in, the heads

afterwards being cut off and glass-papered clean.

A narrow rail (G) is most essential to the strength of the article. It may be "let in" or housed into the upright (F) and carried through also into the inner side (B) of the drawer box. Screws may be run up through the base into the back rail, and screws put through the ends of the rails also to bind the whole stand well together.

This stand, it will be realized, is not intended for heavy or cumbersome books, but only for a few small ones.

There are, at least, two ways of finishing off the woodwork of this stand. One is a cream or vermillion enamel laid on a covering coat of ordinary paint. The first coat of paint must be allowed thoroughly to harden before the final coat of enamel is laid on.

A simple little bit of handwork may be added in water-colour or enamels to the front of the box, above the drawer if desired to brighten the effect.

A shade, cylindrical in form as shown, is very suitable and it is most easily made from vellum or parchment paper. A wire frame, ready-made, may be bought for this shade, or the worker could easily make his own if he has a few pieces of stout wire by him.

Although lamp shades of all shapes and sizes can be purchased fairly reasonably, it should be the aim of the worker to put the whole of his own efforts into such a piece as this.

The flex for the lamp is, of course, brought up from the house plug and carried through the back (C) of the box and so up through the top to the electric fitting above.

CUTTING LIST

A—Base.—9½ by 4ins. by ¼in.
B—Sides.—4 by 3¼ins. by ¼in.
C—Back.—3¼ by 2¾ins. by ¼in.
D—Top.—4 by 3¼ins. by ¼in.
E—Front.—2¾ by 1⅛ins. by ¼in.
F—Book Rest.—5 by 3¼ins. by ¼in.
G—Leage.—5¼ins. by 1in. by 3/16in.
H—Drawer Bottom.—3 7/16 by 2¾ins. by ¼in.
I—Drawer Sides.—3 7/16 by 1⅛ins. by 3/16in.
J—Drawer Inner Front.—2¾ins. by 1⅛ins. by 3/16in.
K—Drawer Outer Front.—2¾ins. by 2ins. by 3/16in.
L—Drawer Handle.—1½ins. by ¼in. by 3/16in.

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Full-size patterns for GLASS-TOP PUZZLES

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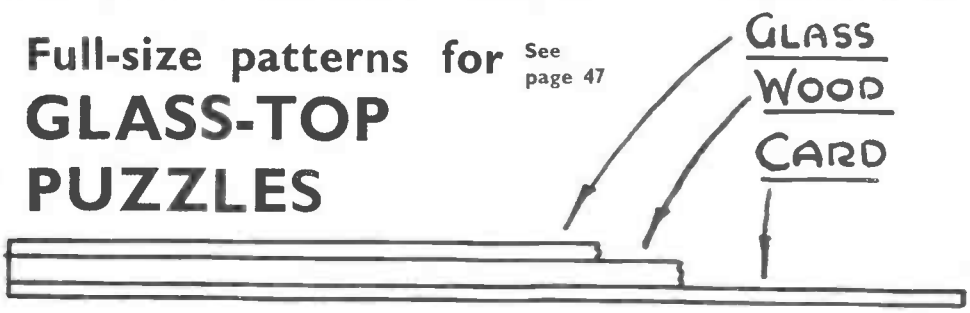

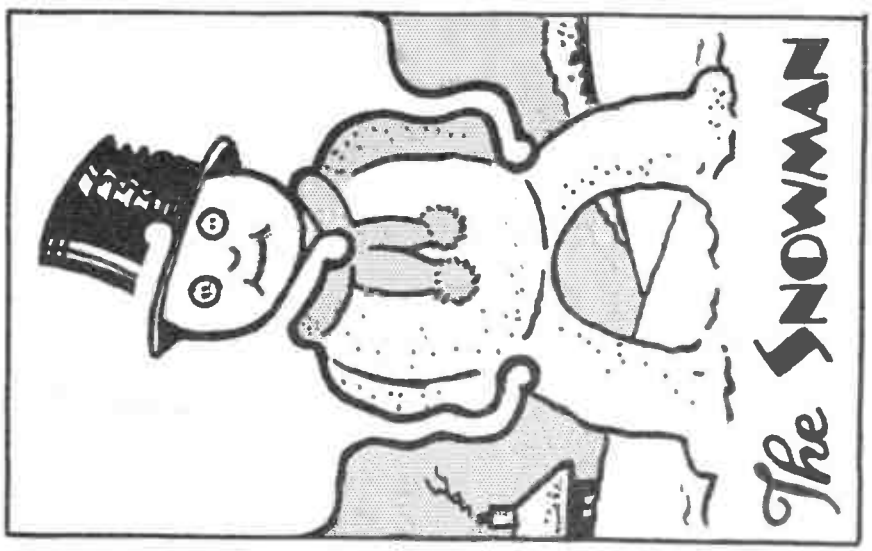

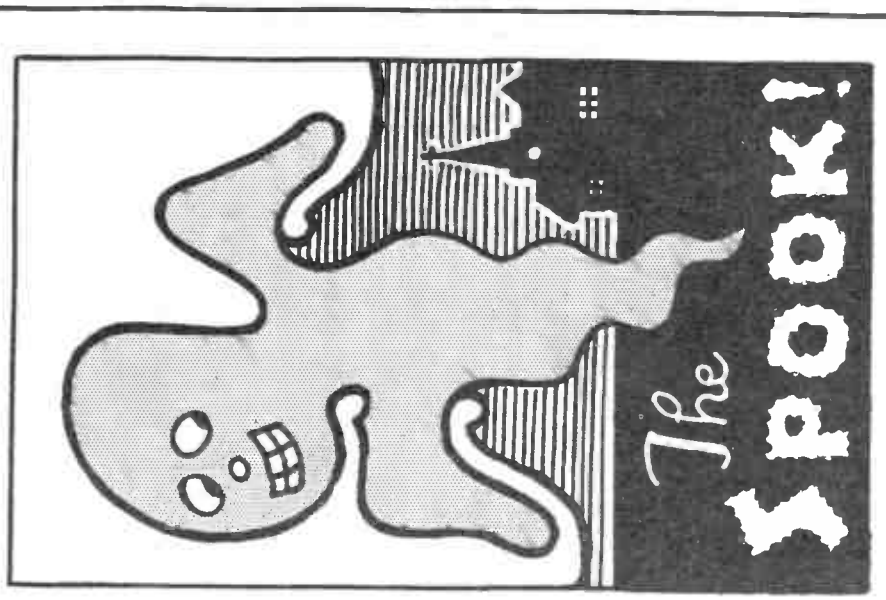

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