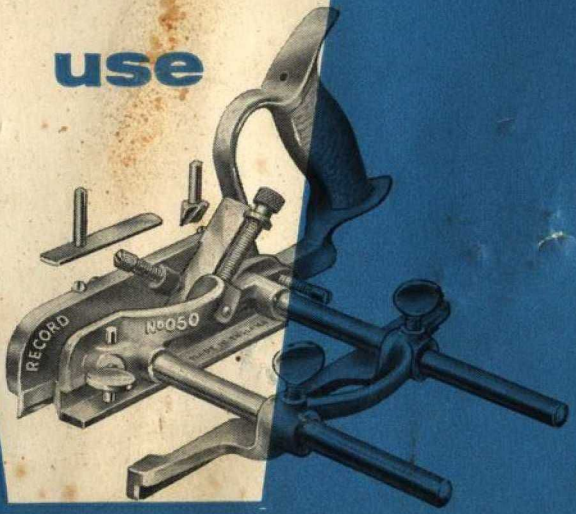
How to use



RECORD

IMPROVED COMBINATION PLANE

No 050

MADE IN ENGLAND

THE RECORD IMPROVED COMBINATION PLANE No 050

is a combined tool which will perform most planing operations generally required in cabinet making and joinery—

1. Plough.
2. Dado.
3. Beading.
4. Centre Beading.
5. Rabbet and Fillister.
6. Matching (Tonguing and Grooving).

It is fitted with spurs for cross grain work, adjustable depth gauge, adjustable fence, beading stop, and also shaving deflector for use when tonguing.

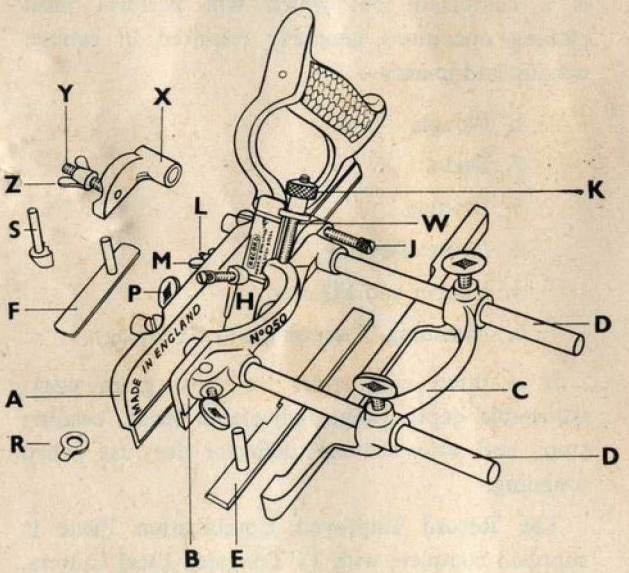
The Record Improved Combination Plane is supplied complete with 17 Tungsten Steel Cutters, as illustrated on page 10. The Plane is fitted with **Screw Adjustment to the Cutter** which enables it to be fed into the work with an accurate and easy control, and the Cutter Clamping Screw holds the Cutter firmly in position.

1. TO SET UP

Slacken the screws in the Mainstock which secure the short arms, and replace the latter with the long arms, locating them normally approximately half-way through, and tighten up the screws (when working a long distance from the edge, the arms can be located further to the right). Slide the Sliding Section B on the Arm Rods. Slide up the Cutter H in the groove from underneath, engaging slot of Cutter on to Collar O of the Adjusting Nut K.

Tighten slightly the Wing Nut M, follow down the Fixing Screw J lightly to support the tail end of Sliding Section, adjust for depth of cut with Adjusting Nut K. Tighten Wing Nut after the cut is set.

Fence C slides on the Arm Rods D.



2. PLOUGHING

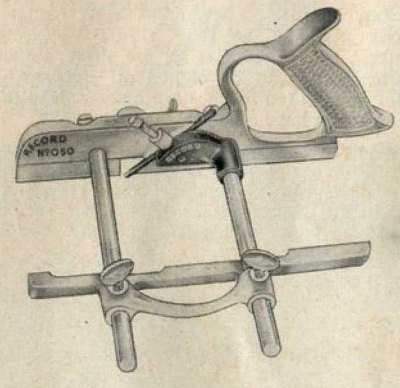
Assemble as above.

Depth Gauge F is used at Hole P (same hole as for Shaving Deflector), and regulates the depth of the groove. ½″ deep can be ploughed in this manner. If it is desired to plough deeper than this, remove the Depth Gauge F, slacken Wing Nut M, advance the Cutter slightly by turning

Adjusting Nut K ; tighten Wing Nut M and take a cut. Repeat the operation as often as required. In this way $\frac{15}{16}$" deep grooves can be cut.

The Depth Gauge F regulates the depth of the groove, and Fence C regulates the distance of the groove from the edge of the board.

To plough grooves $\frac{1}{8}$" and $\frac{3}{16}$", sliding section B is removed, and replaced by Clamping Bracket X. The Cutter then being inserted, adjusted for cut and tightened up with Wing Nut Z, Fence C and Depth Gauge F are used as with the other Cutters to regulate the distance of the groove from the edge and its depth.



USE OF SPURS

Two Spurs are provided, one in Main Stock A, and one in Sliding Section B, and they are used for cross grain work.

They can be put into operation by releasing the small Retaining Screw and turning so that the Spur projects below the bottom of the Plane Runner.

They act as a knife edge and cut a nick in the wood, which enables the Cutting Iron to make a clean cross grain cut without tearing or splintering the surface.

3. RABBETING

Set up as at 2, page 2. Use a Cutter slightly wider than the width of the rabbet required, and slide Fence C under

the Cutter to the width required. Use Spur R in the Mainstock A, but not in Sliding Section B, when rabbeting across the grain. Depth Gauge F regulates depth of rabbet. If the rabbet is required more than $\frac{1}{2}$" deep, proceed to cut deeper as in 2.

If the rabbet required is wider than the widest cutter plough a groove first, away from the face edge, and later remove the surplus by re-setting the fence, or with a Jack Plane.

4. BEADING

PLAIN EDGE BEADING. Set up as in 2, using required Cutter. Set Fence C so that it *just covers the Quirk* of the Cutter. If the Fence is set too short, a small quirk will be formed that can be planed off afterwards with a Jack Plane, but if set too far in, nothing can make the bead a good one, as it will have a flat on the edge.

CENTRE BEADING. Set up exactly as before, except that Fence C is set at the required distance. The Combination Plane will centre bead 5" from the edge of the board with fence set as in the diagram. If the fence is reversed, it will centre bead $7\frac{1}{2}$" from the edge. Longer arms can be obtained, if required.

BEADING TONGUED BOARDS. Instead of the Fence C use Beading Stop E inserted at B, and proceed as before. The Tongue will not interfere with the operation.

Spurs are not required for any beading.

5. TONGUING AND GROOVING

Use Tonguing Cutter, which will cut a $\frac{1}{4}$" Tongue on the centre of boards. Fence C regulates distance from edge of board. Depth of Tongue is regulated by the screw stop on the Cutter. Depth Gauge F is not required.

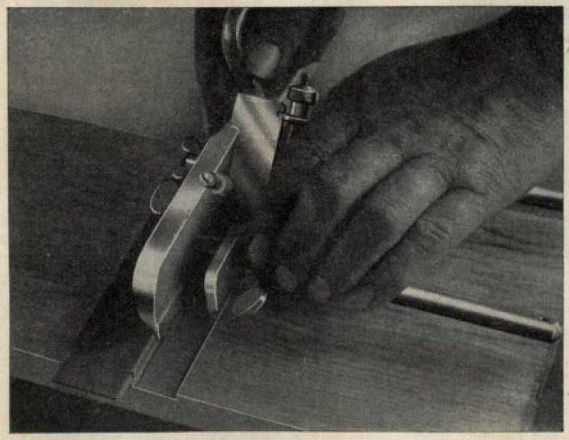
To assist the clearance of shavings when using the Tonguing Cutter, Shaving Deflector S is inserted loosely in the hole P before the Cutter is inserted from underneath. When both Deflector and Cutter are in position, the Deflector is set so that its squared recess fits the side of the Cutter closely before it is secured by the Thumbscrew. The Cutter is then adjusted for cut in the usual way and secured by its Wing Nut.

The grooves are cut with the $\frac{1}{4}$" Cutter as in ploughing.

Extra Cutters are available for cutting $\frac{1}{8}$" and $\frac{3}{16}$" tongues. See page 10.

6. TO CUT A DADO (or Housing, *i.e.*, a groove across the grain)

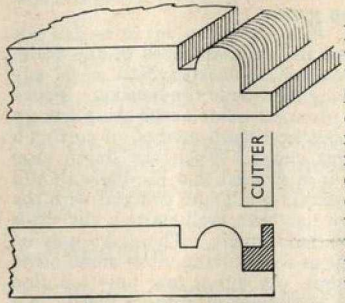
Set up with a Cutter of the desired width of the dado. Use the Spurs R and have them sharp. Nail a $\frac{3}{16}$" ply strip guide temporarily along the line of the housing. Fence C is not required, as the plywood guide keeps the plane up to its work. This is the quickest hand method of cutting a dado, and is accurate and clean. When the depth stop reaches the plywood and it is desired that the dado should be deeper, remove the plywood guide and proceed with the cutting. Once the groove has been well started, the walls of the groove will keep the dado square. The dados may be made square with the edge as for shelving, or at some other angle as for strings for steps. In either case only one line need be marked, to which the plywood guide is fitted. No sawing, chiselling or routering is required. The method will be clear from the illustration below. When the nail holes would be objectionable, the plywood strip may be cramped instead of nailed.



7. METHOD OF HANDLING

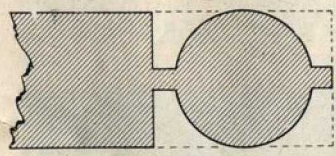
Very little downward pressure is required, but care must be taken to keep the Fence C well up to its work with the left hand. Start cutting on the part of the board that is farthest away, and gradually increase the length of the cut until the full length of the cut is being taken.

8. TO CUT A TORUS BEAD



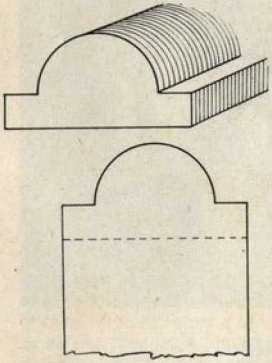
Cut a bead with the Fence set at the full width of the Cutter. Then rabbet out the front edge quirk to the depth required. Alternatively, the second cut may be taken on the *edge* of the board. In this case the fence has a wider bearing on the work, but care must be taken not to cut beyond the bead.

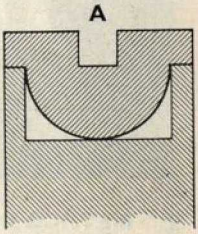
9. TO CUT ROUND RODS



Choose wood of the right thickness for rod required; cut a bead on each side as shown, and then cut off from board with a saw. Rods made in this way require very little cleaning up.

10. TO CUT AN ASTRAGAL



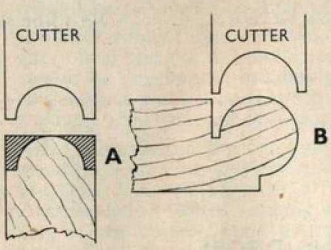


Use a Beading Cutter on the edge of a board of the required thickness, and then cut off the mouldings, as shown. If a groove is required on the reverse, it can be done with the $\frac{1}{8}$" plough cutter, holding the moulding in a cradle, as shown.

TO CUT AN ASTRAGAL, *contd.*

Another way is to use wood the thickness of the required astragal. Plough the groove first ; reverse the board and cut the bead ; cut off with a fine saw, and trim the last edge with a Smoothing or a Block Plane.

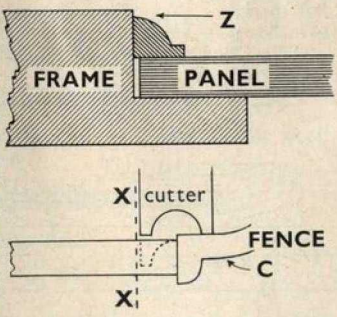
11. TO CUT A RETURN BEAD



Set the Fence C so as to leave a very small quirk on the first cut. On the second cut set so as to just take this quirk off.

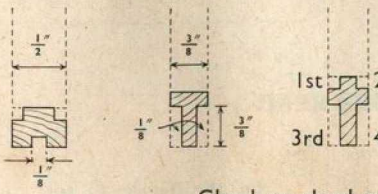
12. PLANTED OVOLO

Slide Fence C under a beading cutter of suitable size so that half of the cutter only is in action. Set Depth Gauge F to correct depth required. Use wood of suitable thickness, and after planing the half bead saw off on the line XX, later trimming with the Jack Plane. The moulding can then be planted the depth of the quirk as at Z for panelled work in doors, framings, etc., being glued and pinned. Glue only to the frames, leaving the panel free to shrink. When using a wide bead, a wood fillet, as indicated in paragraph 14, should be attached to the Fence C, so that the fence may reach far enough.



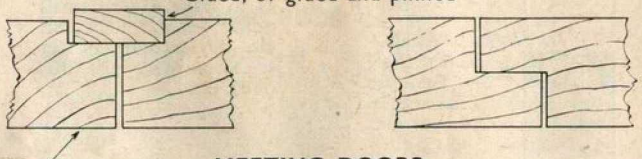
13. OTHER MOULDINGS

Various other mouldings will suggest themselves to the worker after a perusal of the foregoing. A few suggestions, by no means exhaustive, are shown below.

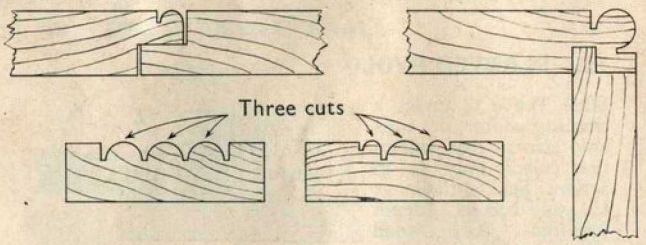


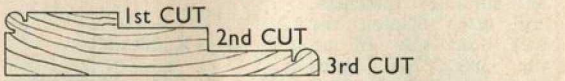
MODERN ASTRAGALS

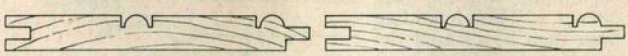
cut from edge of wider board; sever with fine saw

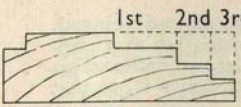


MEETING DOORS

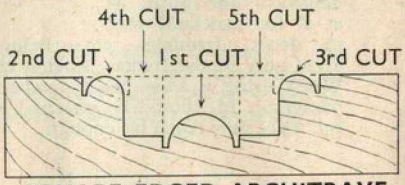








MODERN ARCHITRAVE
Proportion to suit work



SQUARE EDGED ARCHITRAVE

14. TO INCREASE DEPTH OF FENCE

Screw a fillet of hard wood to the Fence C, for which purpose holes are drilled in the fence. The narrow fence used without a wood fillet enables much work to be done in the vice that would otherwise call for a sticking board or other device.

15. SHARPENING THE CUTTERS

Plough and Matching Cutters are sharpened as ordinary plane irons, and offer no difficulty.

The Beading Cutters are best sharpened with a carver's slip. It is best not to make a second bevel, as the grinding cannot be done on an ordinary grindstone. When honing the beading cutters, hone the full width of the bevel, thus retaining the shape and obviating grinding.

A Carborundum slip will quickly hone the Cutters at the grinding bevel, but does not leave a keen enough edge, and must be followed up with a Washita, or preferably an Arkansas slip. When rubbing off the wire edge from the face of the cutters, hone perfectly flat. A bevel on the back of the cutter is very detrimental to the working. A round rod wrapped in flour grade emery cloth, touched with a spot of oil, will sharpen the cutters, or a round hardwood rod can be used with flour emery and oil, but a carver's slip is best.

To sharpen the spurs, take a light cut on the bevel side only with a saw file, holding the spur with a pair of flat nosed pliers, and resting the spur on a piece of wood held in the vice. Do not file the outside of the spur.

16. WHEN MAKING ADJUSTMENTS

keep the plane over the bench, to obviate losing small screws, etc., in the shavings.

17. ALL PARTS ARE STANDARDIZED

and replacements can be supplied.

18. REMEMBER

that as in all planing, two thin shavings will give more accurate results than one thick one. When cutting beads, particularly, the cutters must be sharp. No plane that needs sharpening will give good results.

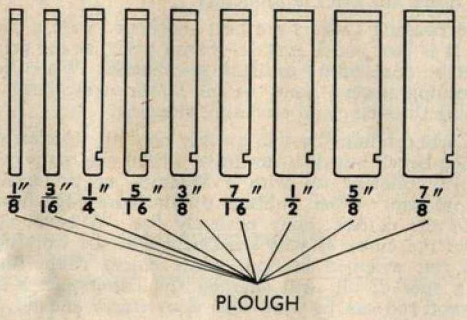
A spot of oil or a rub with a wax candle on the fence makes for easy working.

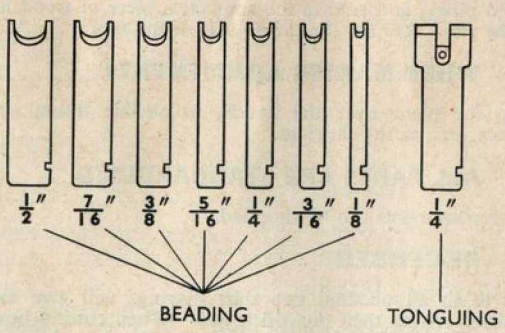
RECORD TUNGSTEN STEEL CUTTERS

Each Plane is supplied complete with the 17 Tungsten Steel Cutters illustrated below, viz.:—

9 Plough and Dado (CP)
7 Beading (CB)
1 Tonguing (CT)

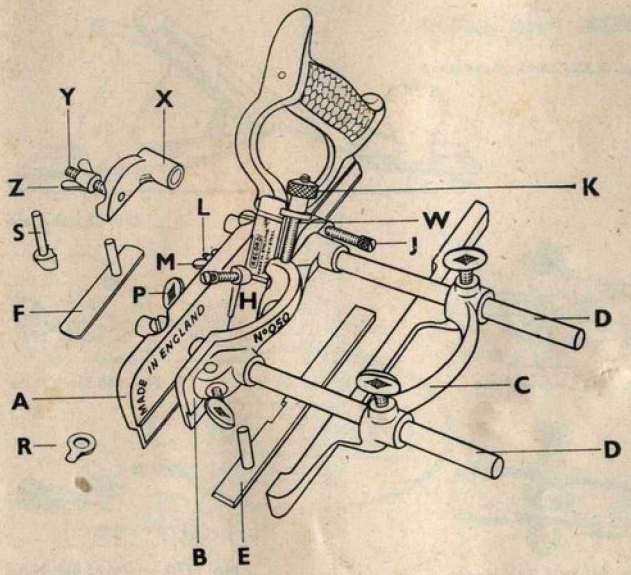
and replacements can be supplied at reasonable cost.





Additional Cutters of 4, 6, 9 and 12 millimetre width for grooving for Plywood Panels, etc. and also $\frac{1}{8}$" and $\frac{3}{16}$" Tonguing Cutters, are available.

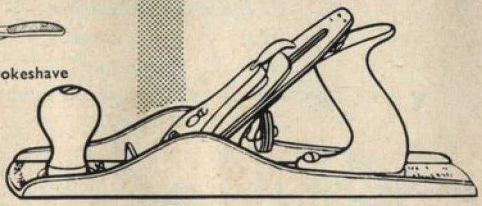
LIST OF PARTS for
RECORD COMBINATION PLANE No. 050



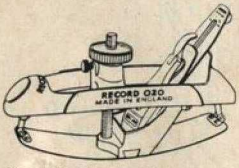
A	Main Stock
B	Sliding Section
C	Fence
D	Arm Rods
E	Beading Stop
F	Depth Gauge
H	Cutters
J	Sliding Section Fixing Screw
K	Cutter Adjusting Nut
L	Cutter Bolt
M	Cutter Bolt Wing-Nut
P	Depth Gauge or Shaving Deflector Thumb Screw
R	Spurs with Screws
S	Shaving Deflector
W	Cutter Adjusting Screw
X	Cutter Clamping Bracket
Y	Cutter Clamping Bracket Bolt
Z	Cutter Clamping Bracket Washer and Wing-Nut
X Y Z	Narrow Cutter Clamping Bracket complete with one Plough Cutter each $\frac{1}{8}$" and $\frac{3}{16}$".

A few of the many types of RECORD PLANES

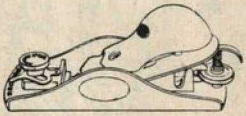
No. A.65 Chamfer Spokeshave



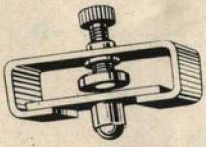
No. 05 Jack Plane



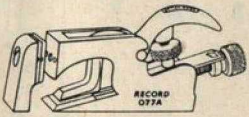
No. 020 Circular Plane



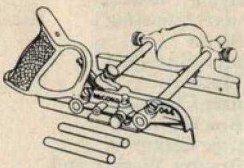
No. 018 Block Plane



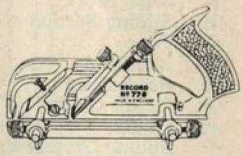
No. 161 Edge Tool Honer



No. 077A Improved Bull-Nose Rabbet Plane



No. 044 Plough Plane



No. 778 Improved Rabbet Plane

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