

# MITRE SHOOTING BOARD

by K. G. WELLS

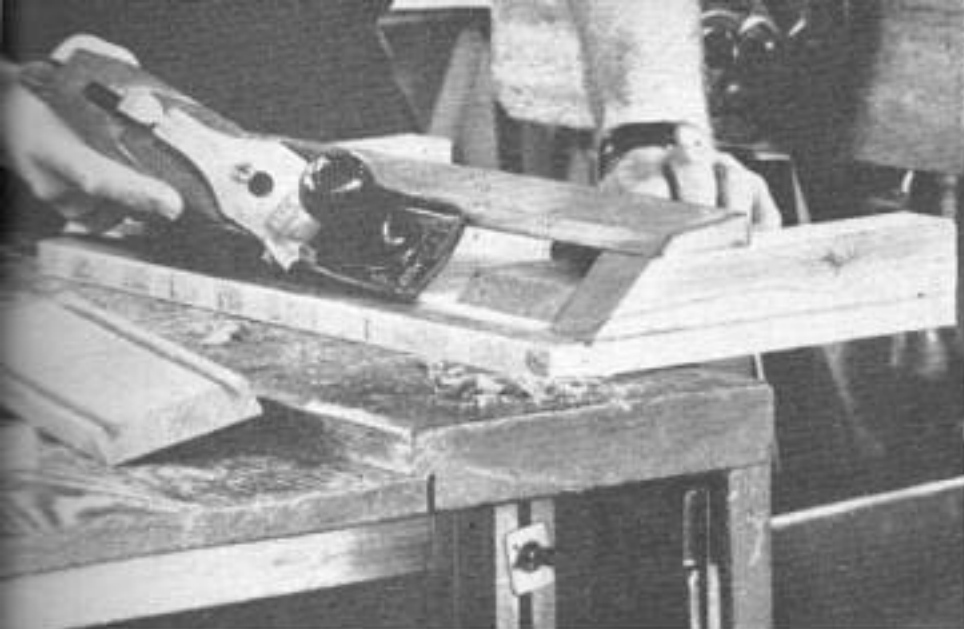


FIG. 1. THE NEW FORM OF SHOOTING BOARD IN USE  
Better control of the plane is possible than with the conventional donkey's ear board.

THE MITRE SHOOTING board shown in Fig. 1 is an efficient aid to planing accurate mitres across the width. It possesses some advantages over the traditional donkey's ear board, largely because the material being mitred is in a flat position. Even large panels are easily supported on the bench and held firm with the left hand. When mitreing thick or wide material wedges may be inserted under the top guide to prevent the work moving. The wedges should only be used near the ends or the top guide may be distorted.

When using the old type board considerable pressure is required to keep the side of the plane in contact with the board plus the side and end force necessary to cut the mitre. With this board the plane can be handled in the normal way and, with both sides of the sole guided, accuracy is ensured. The appliance may be useful in the school workshop where pupils often experience difficulty in controlling a plane lying on its side.

Although the mitre board can be made any size, it is most useful if it will accommodate the maximum width

usual for furniture carcasses—about 1 ft. 7 in. Unless suitable well-seasoned hardwood is available, block-board is probably the most reliable material to use for the base of the board. Do not use multi-ply which is prone to warp, or chipboard, which is difficult to groove satisfactorily with a plough plane.

Plane one edge of the base board exactly true, then gauge the position and width of the groove with a cutting gauge. The gauge lines will enable the plough plane to cut cleanly across the face veneer. Cut the groove with a  $\frac{1}{4}$  in. blade to a depth of  $\frac{3}{16}$  in.

Mark out the positions for the stops. The housings for these are chiselled and routed out to a depth of  $\frac{1}{2}$  in. The height of the stops is determined by the width of the plane to be used. Suitable heights for blade iron widths are given in Fig. 2. Prepare the stops with one end of each cut accurately to 45 deg. They are each secured from the underside of the board with three  $1\frac{1}{2}$  in. 12-gauge screws.

A piece of  $\frac{1}{8}$  in. or  $\frac{3}{16}$  in. plywood is required as a packing  
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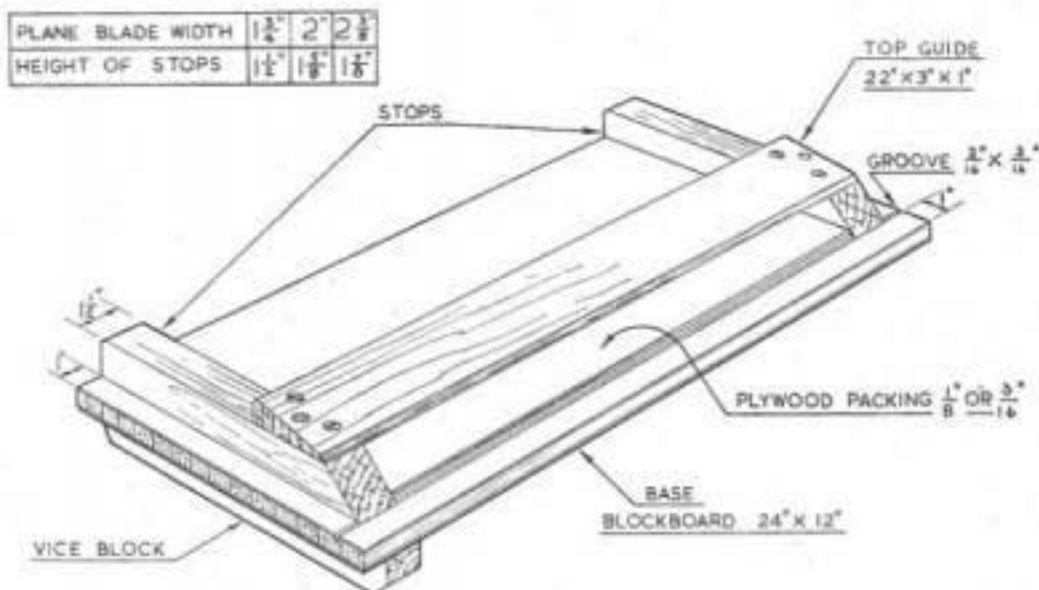


FIG. 2. DIAGRAM OF MAIN PARTS AND THEIR SIZES

## MITRE SHOOTING BOARD

*(Continued from opposite page)*

piece to lift the work being mitred above the extreme edge of the plane blade. The edge of the plywood adjacent to the groove need not be bevelled. It can be secured to the base board with short pins or screws. The need for this packing piece can be avoided if a sizeable V groove is cut in the base board. However, the V groove is more difficult to form accurately and does not allow the appliance to be so successfully adapted to plane other angles.

The top guide is a well-seasoned piece of hardwood and may be tapered in thickness to give a neater appearance. The edge is bevelled to 45 deg. With the guide pinned in position a fairly thick piece of wood should be mitred as a test piece; it can then be carefully checked with a mitre square. The guide can be finally screwed down when its exact position has been established. Dowelling the top guide to the stops will ensure its accurate replacement should it be altered to suit another angle.

As mentioned earlier, the board may be adapted to plane other angles providing they are not less than 45 deg. Temporary stops cut to the new angle can be screwed to the existing ones and the top guide adjusted to suit. A block screwed to the underside of the board beneath the near end will enable the shooting board to be gripped in the vice.