

SIMPLE PLATE CAMERA - 2

THIS week the illustrations show the dimensions for parts of the camera whose purpose and main features were described in the first article.

Heavy wood simplifies the construction for anyone who has doubts about his skill. It leaves ample room for all screws and so there is no risk of splitting. For the front, back and sides 1/2 in. oak is used. Top and bottom are of fin. oak.

The focal length of the Ross Xpress 3.8 lens controls the length of the camera. The width derives from the length of the A.P. Paris slides for the 3-1/2 in. x 2-12 in. plates and the depth is equal to the width of the slides plus top and bottom; it is 3-7/16 in., the slides being 2-15/16 in. wide.

Diagram A shows the front as seen from the outside B gives the

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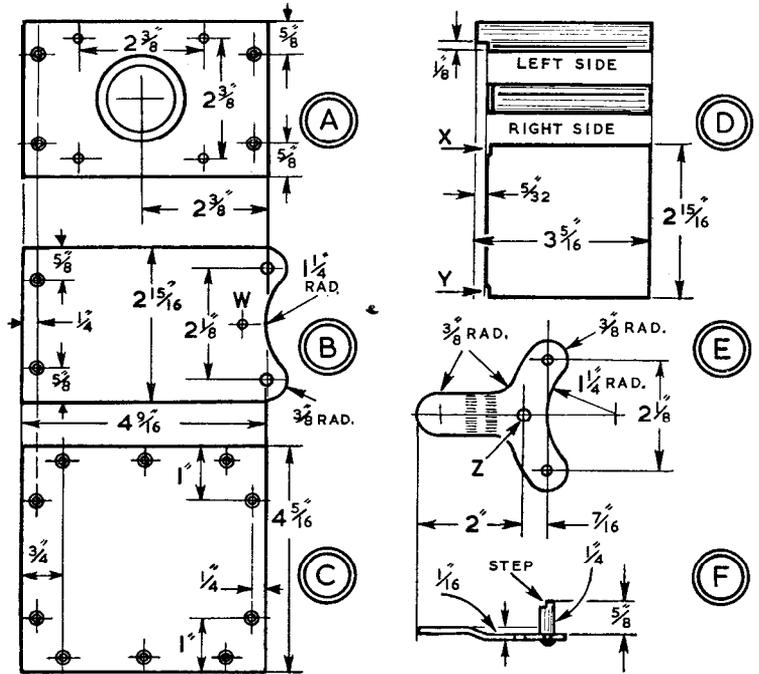
back, and C is a view of the top. The bottom is the same. Diagram D gives details of the two sides.

The left side is as seen from above: 3-5/16 in. long with a step 1/8 in. X 5/32 in. running the full depth at the rear end to take the inner end of the slide. The right side is shorter by 5/32 in., leaving a gap between its end and the back. Through this space the slide is inserted.

Twenty-six No 6 countersunk steel woodscrews are used for assembling. Six are 1-1/4 in. and 20 3/4 in. The long ones fit from front and back into the sides and the short ones secure the top and bottom. I made the clearance holes with a No 28 drill, afterwards countersinking them with a rose bit so that the heads of the screws lay flush.

For tapping holes, I used two different drills: a No 50 for the long screws and a No 52 for the short ones. This was to eliminate the risk of wringing off long screws in tightening, and to leave extra bite for short ones.

The four holes at 2-3/8 in. spacing in the front of the camera, as shown at A, are for mounting the lens holder by 2 BA screws. The screws are inserted from the back with the threads to the front, where nuts are fitted.



Had I made the holes of clearance size for the screws, there would probably have been difficulty in fitting the lens holder from these screws pushing back into the camera. I therefore made the holes with an undersize drill, No 22, and tightened the screws, which are 1 in. long, with a screwdriver.

I used the same drill for the hole W in the back of the camera, as shown at B. It takes a 7/8 in. countersunk 2 BA screw for the slide holder, as shown at E, where the hole Z is 3/16 in. for clearance on the screw.

The lathe was used for boring the hole for the lens in the front of the camera and for machining the 1-1/4 in. radius on the back. I held the front in the reversed jaws of the independent chuck; the back I clamped to the faceplate. For both I used the same boring tool. The hole in the front is stepped, 1-5/8 in. at the outside and 1-1/4 in. at the inside. Its off-set in the front is to bring the axis of the lens to the centre of the plate.

After machining the 1-1/4 in. radius

on the back of the camera, I used the partly-finished slide holder, of 1/16 in. steel, as a template for drilling two 5/32 in. holes. Then I turned a 3/4 in. diameter steel plug with a 5/32 in. shank as a guide for filing the two 3/8 in. radii on the back and those on the slide holder.

With these operations completed, I opened the two holes in the back to 1/4 in. clearance, and fitted the corresponding holes in the slide holder with 1/4 in. X 5/8 in. shouldered pins, which I riveted and brazed. Each pin has a filed step, as shown at F, to fit over the outer edge of the slide to prevent it from being inadvertently withdrawn from the camera. The slide holder has a 1/16 in. set for the ends of the pins to bear on the slide.

A further point about the fitting of the slide is that the right side of the camera, as shown at D, must be filed a few thou at X and Y, to clear the top and bottom flanges of the slide, which are tight on the outside.

The inside of the camera is painted matt-black to prevent reflections.