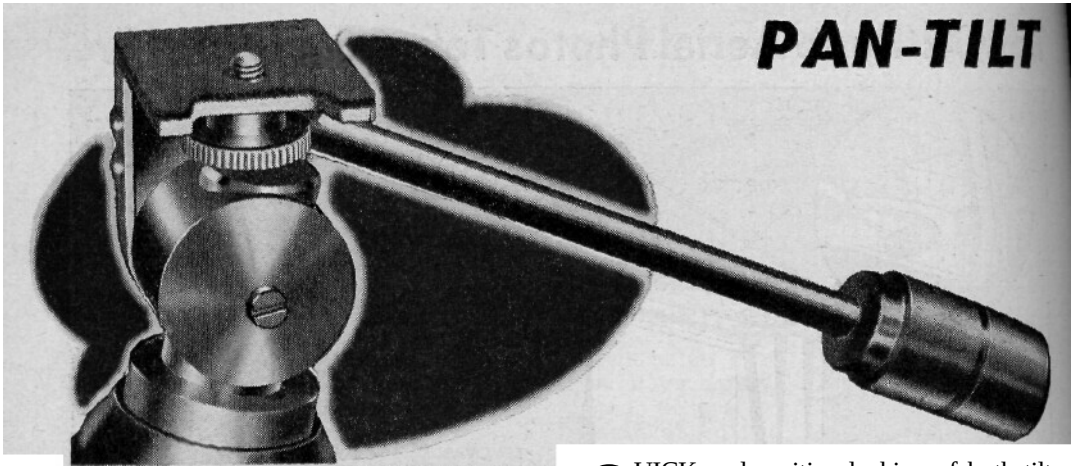
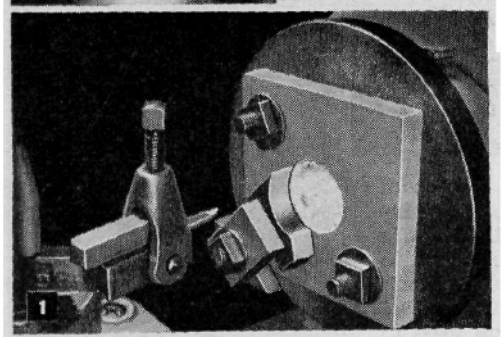
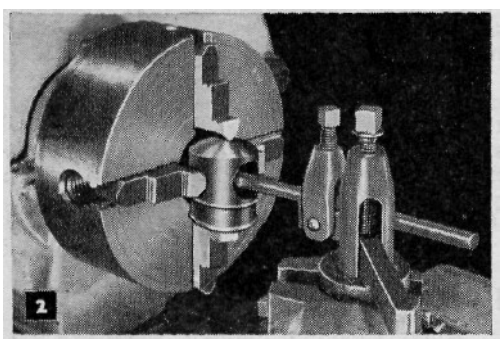
PAN-TILT





With this setup, machining the arc on the saddle block is easy. Block is backed with ½-in. plywood

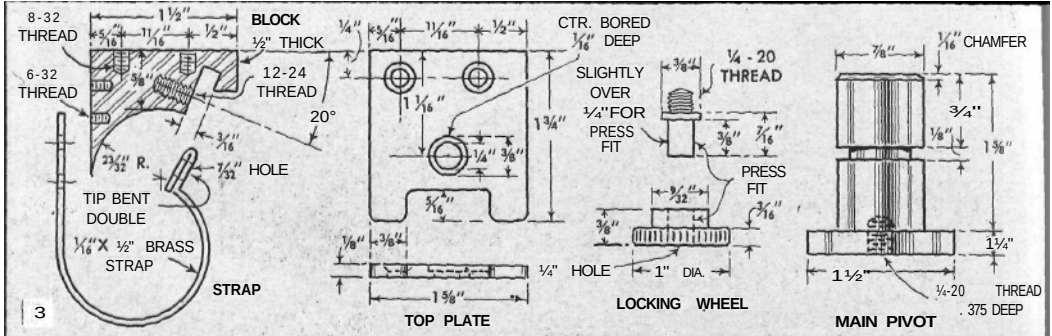


Hole in the pivot bar is bored. 002 in. undersize to assure a snug fit on the main pivot after slotting

QUICK and positive locking of both tilt and "pan" adjustments with a single action is possible with this tripod top. It is sturdy enough to support large view cameras, is adaptable to all standard tripods, and the smooth pan action makes it especially desirable for use with movie cameras. No castings are required.

The main pivot, Fig, 3, is turned from 1½-in. cold-rolled steel. A .125" retaining groove turned in the body receives the tip of the locating setscrew that holds the pivot bar in place. The top of the column is slightly chamfered and a hole is drilled in the bottom and tapped ¼-20 to permit mounting on standard tripods. Cold-rolled steel, 1½ in. in dia., also is used for the pivot bar which has a .031" step cut .062" from the end for the clamping strap. The shoulder formed by this step keeps the tilting head in place when it is loosened for moving. The .875" transverse hole is bored in the lathe, Fig. 2. The diameter of this hole should be about .002 under that of the main pivot to assure the proper fit after slitting the bar. After boring, slot this part with a hacksaw as indicated in Fig. 3, and drill and tap for the locating setscrew. Note that the threaded end of this screw is turned down to .125" in diameter.

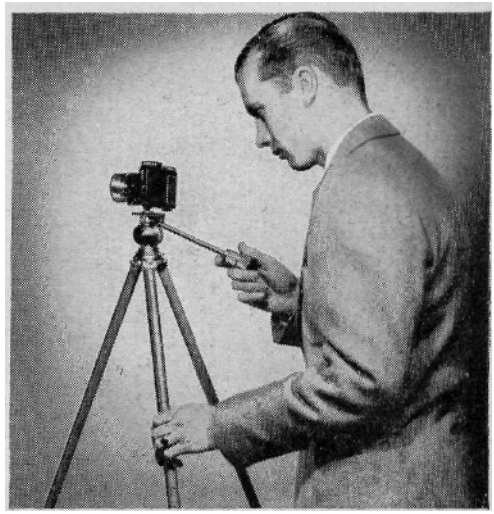
The tilting head consists of a saddle block and a brass binding strap that rides


8-32 THREAD
6-32 THREAD
BLOCK
½" THICK
12-24 THREAD
20°
HOLE
TIP BENT DOUBLE
1/16"X ½" BRASS STRAP
STRAP
3
CTR. BORED 1/16" DEEP
TOP PLATE
SLIGHTLY OVER ¼" FOR PRESS FIT
¼ - 20 THREAD
PRESS FIT
HOLE
1" DIA.
LOCKING WHEEL
1/16" CHAMFER
¾"
1⅝"
1¼"
1½"
¼-20 THREAD
.375 DEEP
MAIN PIVOT

TRIPOD HEAD

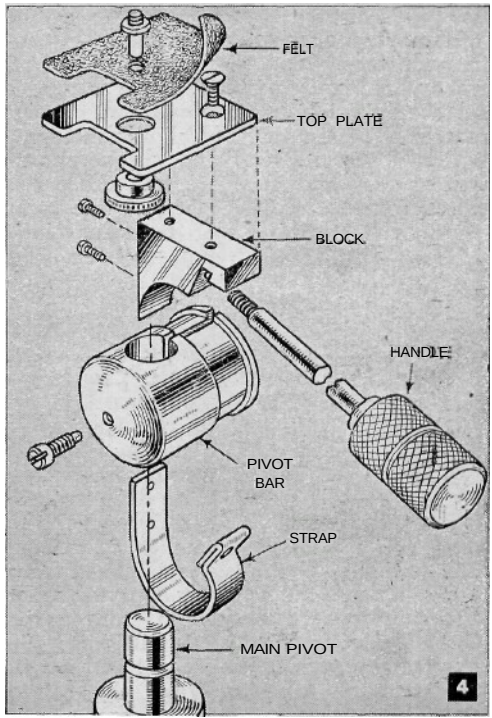
This tripod head is sturdy enough to support a large view camera. A single locking device controls both pan and tilting movements without any other adjustment

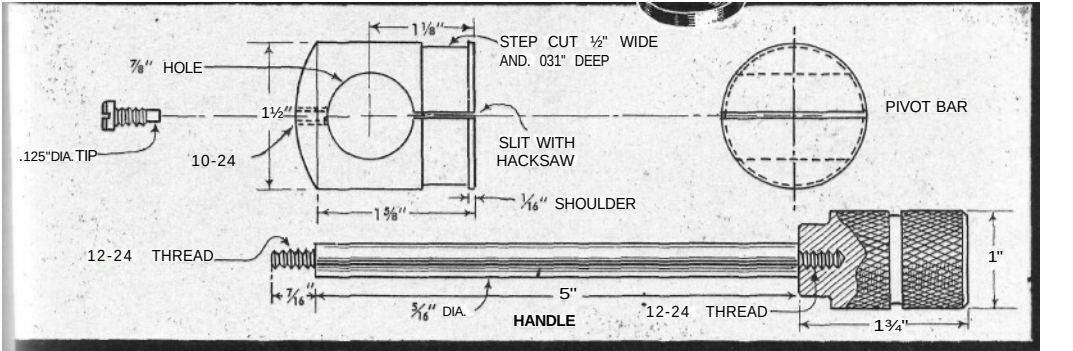
By *Henry and Richard Hanscom*



in the crossbar step and serves as a clamp. The block is machined from ½-in. brass, the arc being cut on the same radius as that of the ½-in.-wide step cut on the crossbar. Fig. 1 shows the setup for cutting the arc. After the arc has been cut, the block is grooved as in Fig.3 to take the bent end of the binding strap. The shouldered end of the locking handle, Fig.3, passes through the strap and turns into a threaded hole drilled and tapped in the saddle at a 20-deg. angle. Two 6-32 fillister-head machine screws, turning into holes drilled and tapped into the back face of the saddle block, hold the flat end of the binding strap. The locking handle, which is threaded to fit the 12-24 tapped hole, is used to hold the strap in position while it is bent to shape. Holes are marked while the strap is held tightly in position and then are drilled and tapped for short screws. The handle is in "release" position to allow for proper tightening of the strap.

A brass top plate is fastened to the saddle block with two flat-headed cap screws. Note that the plate is counterbored for the flanged spindle of the locking wheel, Figs.3 and 4, and that the spindle is machined for a press fit in the wheel hub. Glue a piece of felt to the top of the plate. Although a machine finish is attractive, some builders may wish to grind and polish exposed parts of the unit. The handle, pivot bar and the main pivot can be ground smooth in the lathe and then polished on a buffing wheel. Flat surfaces are polished by rubbing, on a piece of crocus cloth tacked to a flat block of wood.




1⅛"
STEP CUT ½" WIDE
AND. 031" DEEP
⅞" HOLE
1½"
.125"DIA. TIP
10-24
SLIT WITH
HACKSAW
PIVOT BAR
1⅝"
1/16" SHOULDER
12-24 THREAD
1"
7/16"
5/16" DIA.
5"
HANDLE
12-24 THREAD
1¾"