

The Handybench

T.M.

The Stanley Handybench is just the ticket if you need a good solid, highly versatile workbench and are short on space. The Handybench can be quickly folded into a neat package only 6-inches thick, 36-inches long and a bit over 30-inches high - just right to fit into a closet or behind a piece of furniture.

The Handybench has two built in vises - a 10-inch vise and a 26-inch vise. These can be used independently or as a unit depending on the size stock to be worked. Both vises take round and irregular shaped work and hold in a horizontal or vertical position.

How It Works:

Fig. 1 is an exploded view of the unit and gives the names of basic parts and how they fit together.

Four eyebolts - which can be quickly and easily loosened by hand are the only fasteners required to hold the unit erect.

To fold up the bench, loosen the two eyebolts that go into the top from the swing legs and the two that go from the swing legs into the shelf. Lift the shelf upright and, holding the top with one hand, push the swing legs inward. Lower top and secure with hook and eye.

To erect the unit, unhook catch and swing out the legs. Lower shelf and insert eyebolts. Push the eyebolts from swing legs into place and tighten.



Construction Tips:

Reinforce all fixed joints with glue as well as with screws or hex nuts. Screws that secure top boards to main rails and cleats should be run from underside so there will be no exposed screw heads on work surface.

The nuts for eyebolts which are loosened or removed to fold unit up must be held in place so they won't fall out. To secure nuts, set bolt and nut in place without a washer. Tighten bolt to pull nut into wood. Coat exposed threads above nut with grease and apply epoxy cement around outside of nut to form a shoulder between it and the wood.

Step One:

Begin with support assembly. (Fig. 2). Make swing legs. Use cans with a 4" and 2-1/2" diameter to mark curves. Drill holes and counterbores.

Make up the two main legs. (Fig. 2). Drill holes for hex bolts. Make up two support stretchers (Fig. 2) and drill 1/4" and 5/8" holes for captive nuts. Bolt main legs and stretchers together. Add the two gussets and then install shelf with two 5/8" holes for captive nuts (See Detail C, Fig. 2) and 17/64" holes for eyebolts.

Attach shelf to lower stretcher with piano hinge or two 3" butt hinges.

Attach swing legs to main legs with piano hinges or three 2" butt hinges. Insert eyebolts through swing legs into nuts set in shelf and tighten to hold assembly rigid.

Step Two:

Assemble fixed section of top (Fig. 3 & 5). Use 2-1/2" diameter cans to form radius on two side main rails. Drill holes as indicated in Fig. 3. Attach the two main rail guides to the inside face of the main rails with 1-1/4" flathead screws. Top of rail guides should come flush with top of main rails (See Detail A Fig. 3).

Set side main rails 33" apart (inside space should be 31-1/2") (Fig. 3). Tack a strip of wood along front and rear to hold them in place, then install strips of oak flooring that form fixed part of vise jaws (Fig. 3 & 5). Top and jaw areas are shaded in Fig. 5 for clarity.

Rip tongue from one piece of oak and groove from another so when fitted together they'll be 4" wide. Secure oak to main rails with No. 10 flathead screws 2-1/2" long. Counterbore in the rails so screws will penetrate into oak for about 1/2". Make up the lower jaw piece by ripping off the tongue. This piece should be 31-1/2" long so it will fit snugly between the two side main rails, and should be installed so that the edge where the tongue has been removed flush with the rear edge of the top piece to form a double thickness for the jaw vise. Screw and glue lower jaw to upper jaw.

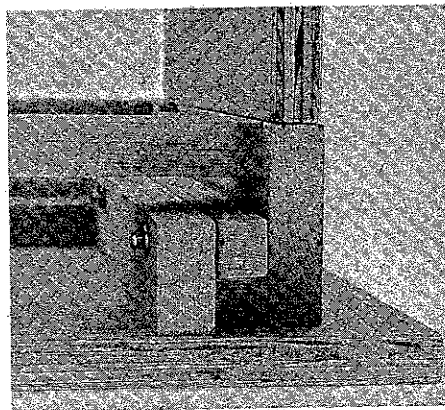
Make up the apron (Fig. 3) so it fits snugly between the side main rails and screw it into the edge of the lower jaw piece. Add rear stretcher with screws only as it may have to be removed later to install clamping assembly

Step Three:

The movable top (See Fig. 4 & 5) is made of oak flooring glued and screwed to cleats. An adjustable guide is attached to each cleat and these guides slide back and forth under the guide rails attached to main rails. (Detail A Fig. 3). Assemble the top as a unit and then saw it apart to form 10" and 26" vises.

There should be a clearance of 1/8" to 1/4" between the main rail guides and the guide cleats to permit easy movement and skewing for irregular work. Measure the distance between the inside face of the two side main rail guides on the fixed top. Subtract 1/4" from this figure to get exact distance that the two outside guide cleats must be set apart. Mark this dimension on underside of each board used for movable top.

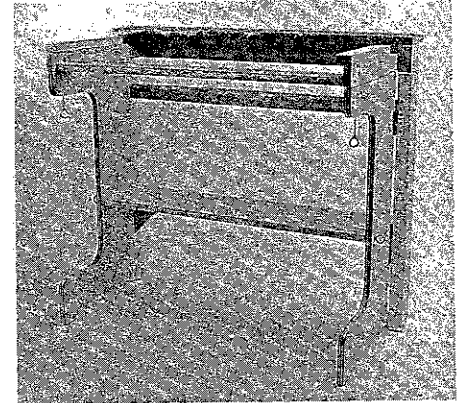
Attach the boards to the cleats one at a time using screws and glue. Use glue for joints between boards. Pull each board tight against the other with a bar clamp and keep the clamp in place until



all screws for that board are in place. Use two 2" screws for each board and counterbore in cleats so screws will penetrate into oak about 1/2" .

Jaws for movable part of top are made with two strips of oak 45° bevel along face to form "V". (Fig. 4). After jaws are in place, cut "V" shaped vertical notches.

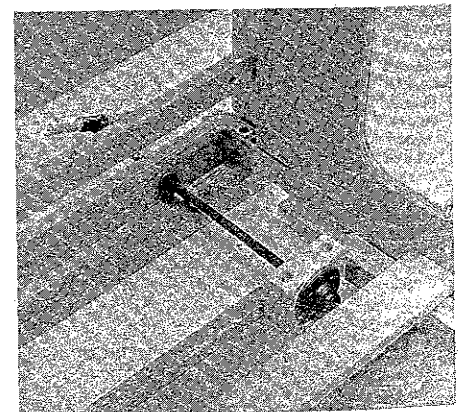
If you wish you can use 3/4" plywood for the movable top but add strips of oak to form jaws of vise.

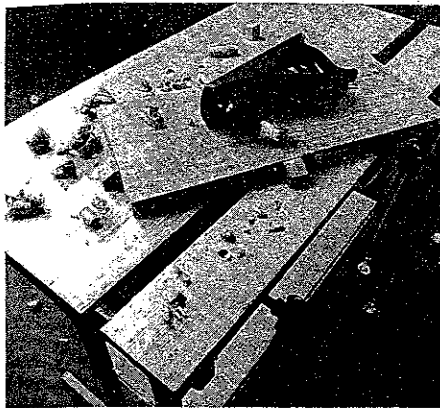


Step Four:

Add remaining cleats as well as adjustable guides. Set fixed movable top upside down and line them up. Make up and install center main rail, fastening guide to each side (Fig. 3). Set inside face of this rail 7-3/8" from inside face of right hand side main rail. Secure rail to lower jaws on fixed top with 2" screws. After clamping assembly is in place, the end of center main rail can be attached to rear stretcher.

With fixed and moving tops in position, install guide cleats on moving top with a clearance of 1/8" to 1/4" between their inside face and faces of center rail guides.





Fasten an adjustable guide cleat to all four guide cleats using 1-1/4" roundhead screws with washers. These screws can be loosened or tightened when necessary to insure smooth operation of moving vises

Step Five:

Make up three clamp blocks (Fig. 4). Screw floor flange to block. Slip the threaded pipe through holes in apron to get exact location for blocks and then glue and screw in place. Add the center and brace cleats (Fig. 4 & 5). Glue and screw these into side of clamp block and to oak boards.

Step Six:

Mark the moving top to produce a 10" and 26" vise and cut along this line with a fine toothed saw. Separation must fall directly over center of center main rail.

Install top hinge supports to fixed top (Fig. 3). Attach supports to main legs with 1-1/2" butt hinges. Slide moving top into place.

Install clamping assembly (Fig. 5). Cut threaded pipe 18" long. Run a washer and two jam nuts down one end for an inch or two. Make up handles (Detail B, Fig. 5). Ream out threads from tee so dowel will fit. Screw tee into place and secure by drilling 3/32" hole through it and pipe. Drive 6d finishing nail into hole, cut off ends and peen. Install handles and insert threaded pipe through holes in washer. Add rear washer and jam nuts. Run pipe into

flange and adjust and tighten nuts at front and rear. (Section A-A Fig. 5). Replace rear stretcher and secure.

Step Seven:

Trim off ends of oak flooring. Drill holes in top for bench stop. (Fig. 4 and Bench Stop Detail Fig. 2)

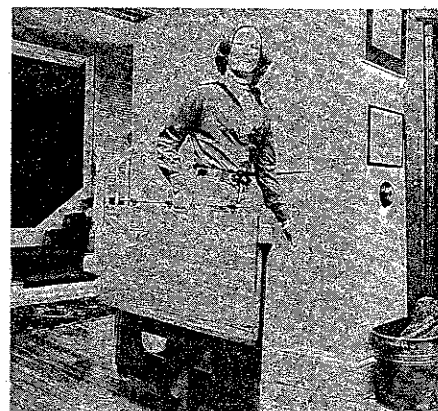
Add glide to main legs and swing legs. Install wheels or casters on main legs. Add carrying handle and magnetic catch and plate to hold shelf upright when unit is folded. (Fig. 2 Folded - Side View and Partial Section).

Give wood a light sanding. Round off sharp corners with Surform tool. Paint swing legs and coat remaining wood with varnish.

Materials You'll Need:

- 3' bundle oak flooring—approximately seven square feet.
 - 4' x 4' sheet of 3/4" plywood
 - 8' length of 2 x 3
 - 12 linear feet 1 x 6 pine
 - 3 linear feet 1 x 8 pine
 - 4-1/2' of 1/4" threaded pipe
 - 3- 1/4" pipe tees
 - 12-1/4" jam nuts and washers
 - 3-1/4" pipe flanges
 - 2-1/4" x 6" eyebolts with nuts and washers
 - 2-1/4" x 4" eyebolts with nuts and washers
 - 4-1/4" x 3" bolts with nuts and washers
 - 1-Continuous piano hinge 1-1/2" x 30"
 - 1-Continuous piano hinge 1-1/2" x 48" (cut in two for legs)
- NOTE: To reduce costs, substitute three 2" butt hinges for each continuous piano hinge (see Fig. 2).
- 2-1-1/2" butt hinges
 - 2-furniture casters
 - 4-furniture glides
 - 1-magnetic catch
 - 1-screen door handle

- 1-hook and eye
- 1 box No. 8 flathead screws 1-1/4" long and one box No. 8, 2" long
- 8- No. 10 flathead screws 1-1/2" long
- 12-No. 8 roundhead screws 1-1/4" long with washers
- 6-No. 16 flathead screws 3" long
- 6-No. 8 flathead screws 1-3/4" long
- Sandpaper, plastic wood, epoxy cement, paint and varnish.



Stanley Tools

You'll Need:

1. Screwdrivers- medium and large
2. Brace with 5/16", 1/2", 9/16" and 5/8" bits. Also screw-driver bit.
3. Push pull or power drill with 11/64", 13/64", 1/4", and 17/64" bits
4. 3/32" metal bit
5. Handsaws-rip and fine tooth cross cut
6. Keyhole or sabre saw
7. Hacksaw
8. Surform tool
9. Plane
10. Flexible steel tape
11. Combination square
12. 3/4" chisel
13. Adjustable wrench
14. 24" bar clamp

The HandybenchTM Plan

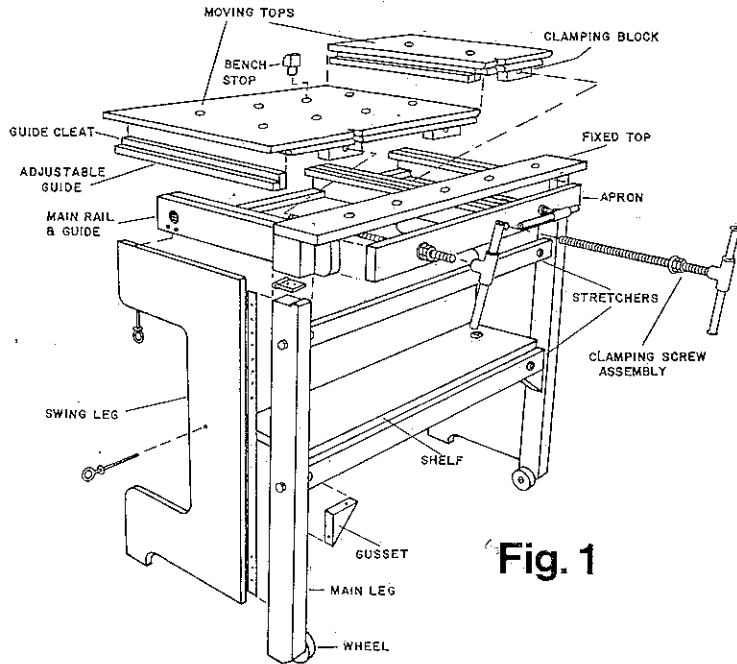


Fig. 1

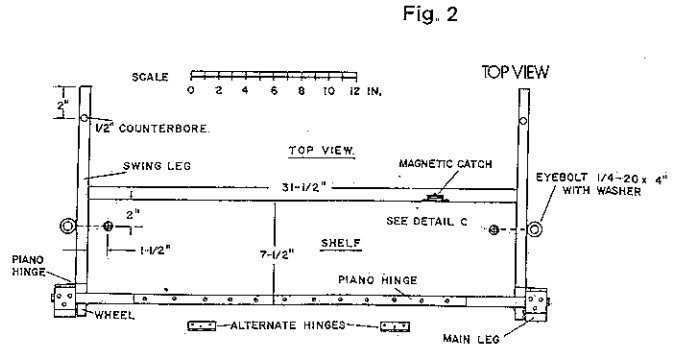


Fig. 2

Fig. 2

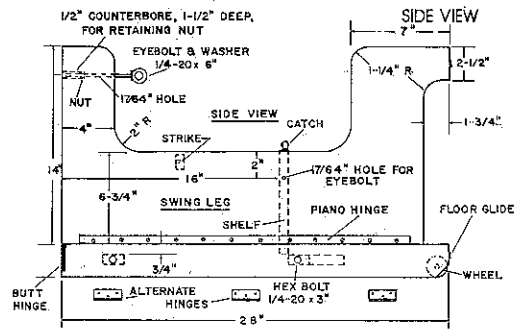
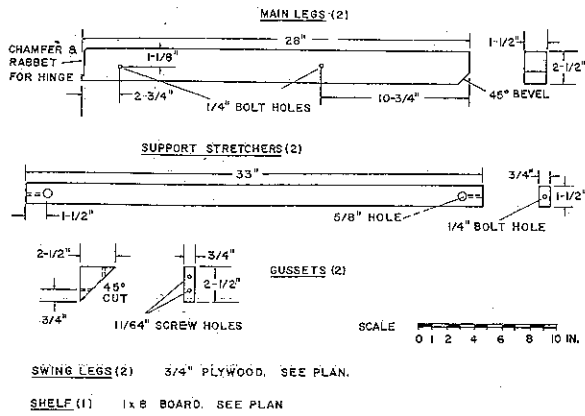


Fig. 2

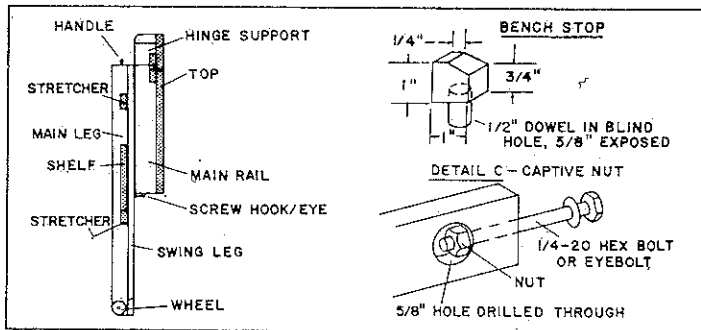
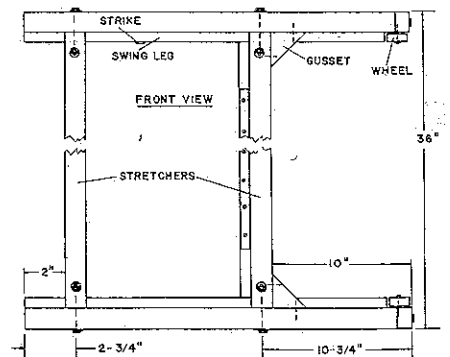


Fig. 2

Fig. 3

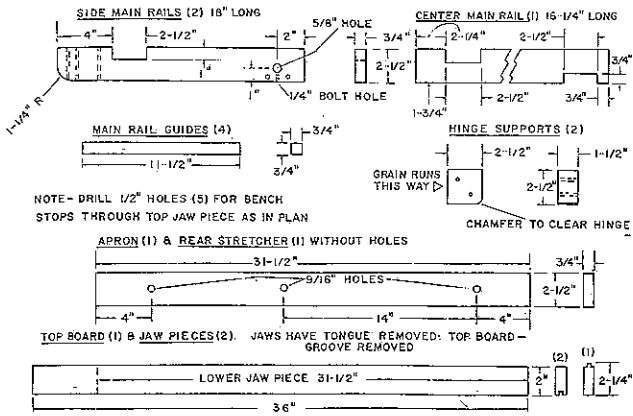


Fig. 4

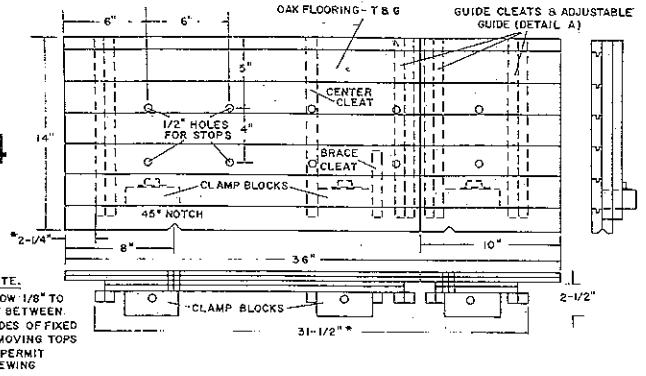


Fig. 5

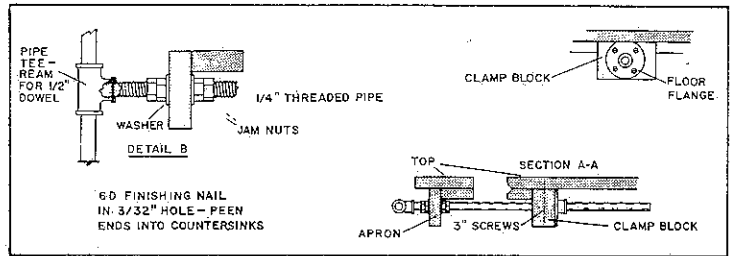


Fig. 4

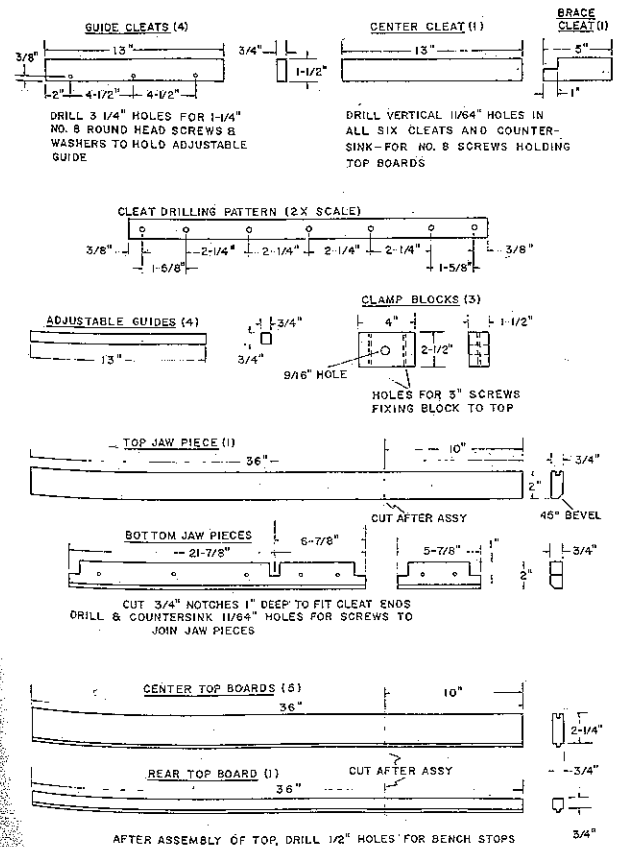


Fig. 5

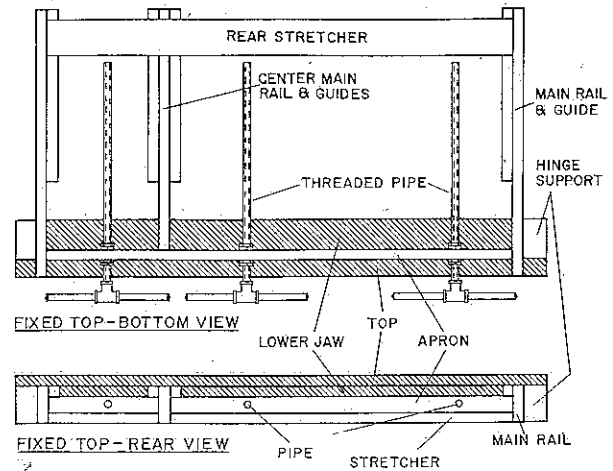


Fig. 5

