

Chapter 4

WORKSHOP LAYOUT

*It Doesn't Have To Be Fancy, But It Should Be Efficient
And Organized For Convenience And Tool Preservation*

NOT EVERYONE can boast of a spacious shop equipped with deluxe hardwood paneling and cabinets, shelves and storage space galore, plus all the appointments and frills that amount to a plush place to work on guns.

The majority of the craftsmen I know who conduct gunsmithing on a hobby basis have nothing more than a corner in their garage or a small backyard shed in which to set up a workbench. If lucky, they may even have room enough to install a storage cabinet or two for their tools and such necessary items as stock finishing oils, bottles or touch-up gun blues and the like. So, we'll come down to earth and discuss "shop talk" as it pertains to the majority of craftsmen who seek to do gun work on a hobby basis.

Over the years, I have owned several successful gun shops, complete with all the headaches accompanying such an operation. Long ago, I learned that it isn't the work area that results in fine craftsmanship but the ability of the man himself and his skill in handling tools correctly — plus a whole lot of gun savvy. I know of amateur gun craftsmen who could be literally swamped with outside work if that was their desire. However, most are content to keep their gun tinkering on a strictly amateur basis, not taking in pay jobs from outsiders. As one told me recently, "Then it would become work, not fun and I do this strictly for the enjoyment I get from it. I know that many gun hobbyists have this attitude but still will do a minor job or two for friends once in a while."

But let's get back to that situation of setting up a shop in an area where space is limited. First off, I know of several gun hobbyists who have nothing more than the kitchen table on which to perform their gun chores — much to the discomfiture of their wives. However, let's assume that

you do have a garage, or at least a shed of some sort on your property and that it is equipped with electricity.

The first consideration will be a good, solid workbench. This should be constructed from a good grade of pine or fir, using 2x4s for the legs and 2x6s for the top. It should measure at least six or seven feet in length by twenty to twenty-four inches in width. The height of the bench should be in proportion to the craftsman's own height. A few inches above waist level is usually ideal. The cross braces of the bench — those attached to the legs — should be bolted to the studs of the building in which the bench is located. Bolts measuring one-quarter-inch in diameter by about five inches in length are required.

Once the legs are firmly bolted in place, the top may be installed, placing the 2x6s lengthwise. These should be nailed in place with eight-penny nails. It is a good idea to cover this top of 2x6s with a good grade of one-half inch plywood, thus providing a smooth surface on which to work. In my own shop, the plywood has been sanded and coated with spar varnish.

Perhaps the most used tool in any gunshop is the much-taken-for-granted bench vise. Again, this tool should be of good quality and have a swivel base that will allow it to be turned 360 degrees.

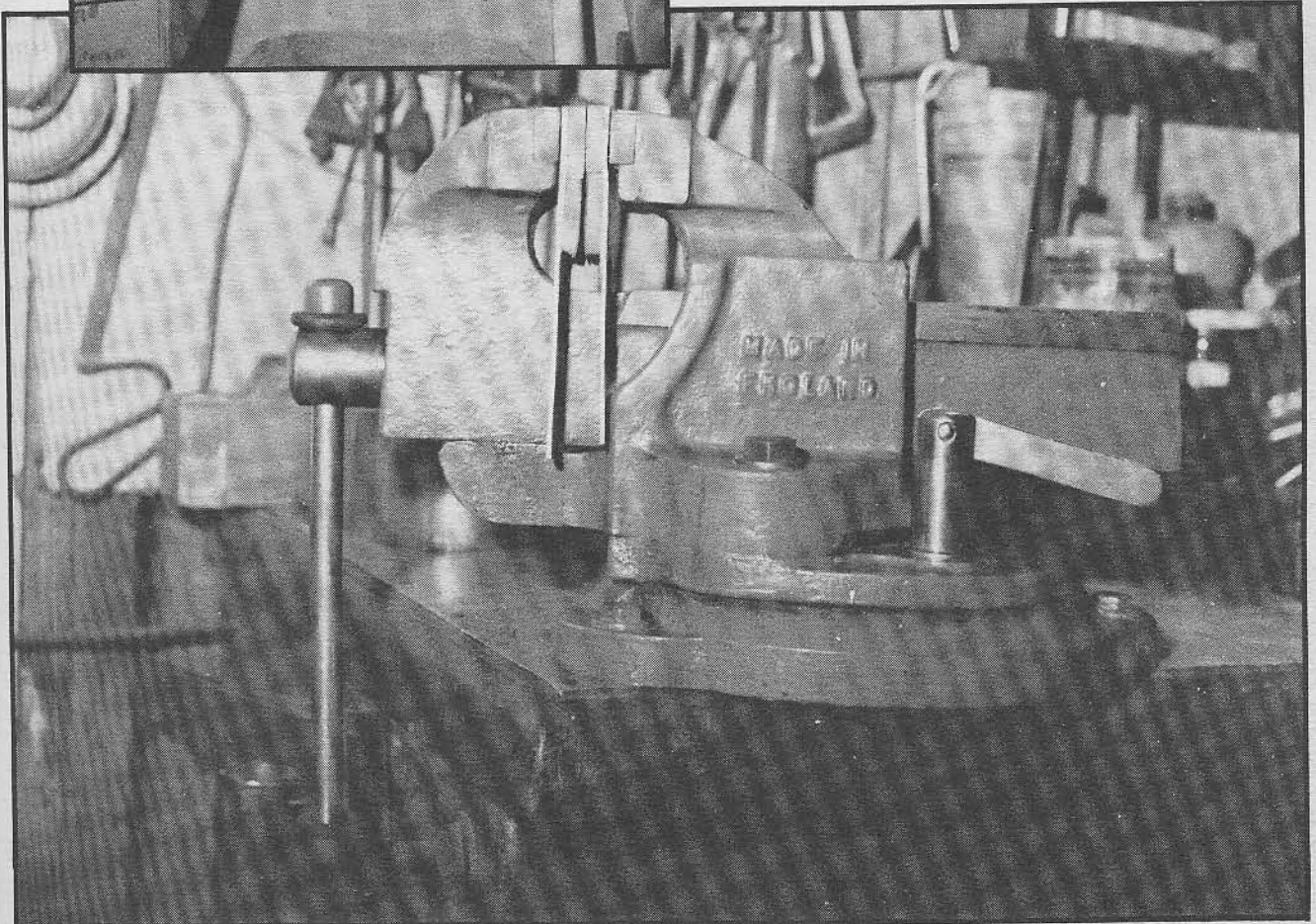
Using hardened steel bolts and nuts, mount the vise near the end of the workbench where there is the most room. Remember that you probably will be working on rifles and will need extra room around the vise to accommodate the rifle's length.

At this point, let's assume that you have your bench in place. It is solid enough that nothing will pull loose when great pressure is exerted on the bench vise, or a barrel vise, should you ever get into this stage of gun work. The last



Stock oils, waxes, gun cleaning oils, wood dyes and similar items should be stored in a cabinet for handy use.

A quality swivel-base vise is one of the essential needs for a well-equipped gunsmithing shop. It will prove to be one of the most used tools in the shop.



Any gun worker never can have too much storage space. The longer you are in gun work, the more space you will need for storing extra barrels, stocks, gun parts, et al. Too, space will be needed for the many cans and bottles of stock

oils and finishes, cleaning equipment, touch-up gun blues and the myriad of other compounds and concoctions necessary in the gun repair field. Cabinets to accommodate these gunsmithing necessities should be built near the workbench where they will be handy. The size and quantity of cabinets a gunsmith might desire will have to be left up to his own requirements.

At this point we have the workbench, as well as the cabinets to accept all the preparations for stock and metal coloring. All are built solidly. The main items now are the tools. As expressed in another chapter, gunsmithing tools are quite expensive and they require extra care.

Tools which see much daily use should be located in an open-faced cabinet directly over the workbench. These might include several sizes of screwdrivers, long-nosed pliers, a few Swiss needle files, some pin punches, a small assortment of chisels, diagonal cutters, jeweler's saw and other needs. The craftsman soon will discover just what tools he will be using the most everyday and will want these within arm's reach at all times. The bulk of your gunsmithing tools should be carefully stored in toolboxes, machinist's chests or roll-away tool chests, but these always should be in close proximity to the workbench where they will be handy.

Perhaps the most used — and often abused — tools in a gunshop are files. To prevent files from becoming dull or rusted, a special rack should be installed on the workbench with each file separated from the others by a wood partition. A series of quarter-inch slots cut to a depth of about 1½ inches in the rack generally will accommodate the majority of the larger files. The smaller types, such as Swiss needle files, screw-slot files, extra-fine rounds and slotting files, as well as most of the so-called micro files should be kept in celluplastic tubes and stored in the tool chest. These files invariably are expensive and somewhat delicate, so extra care should be taken to preserve them.

Should you have a bench grinder, this should be mounted on the end of the workbench most distant from the bench vise. In other words, the vise is on one end of the bench, the grinder on the other.

Beneath the workbench, there should be sufficient extra storage space, especially if one installs a couple of shelves

An assortment of the tools used most on a daily basis should be located directly over workbench in cabinet.

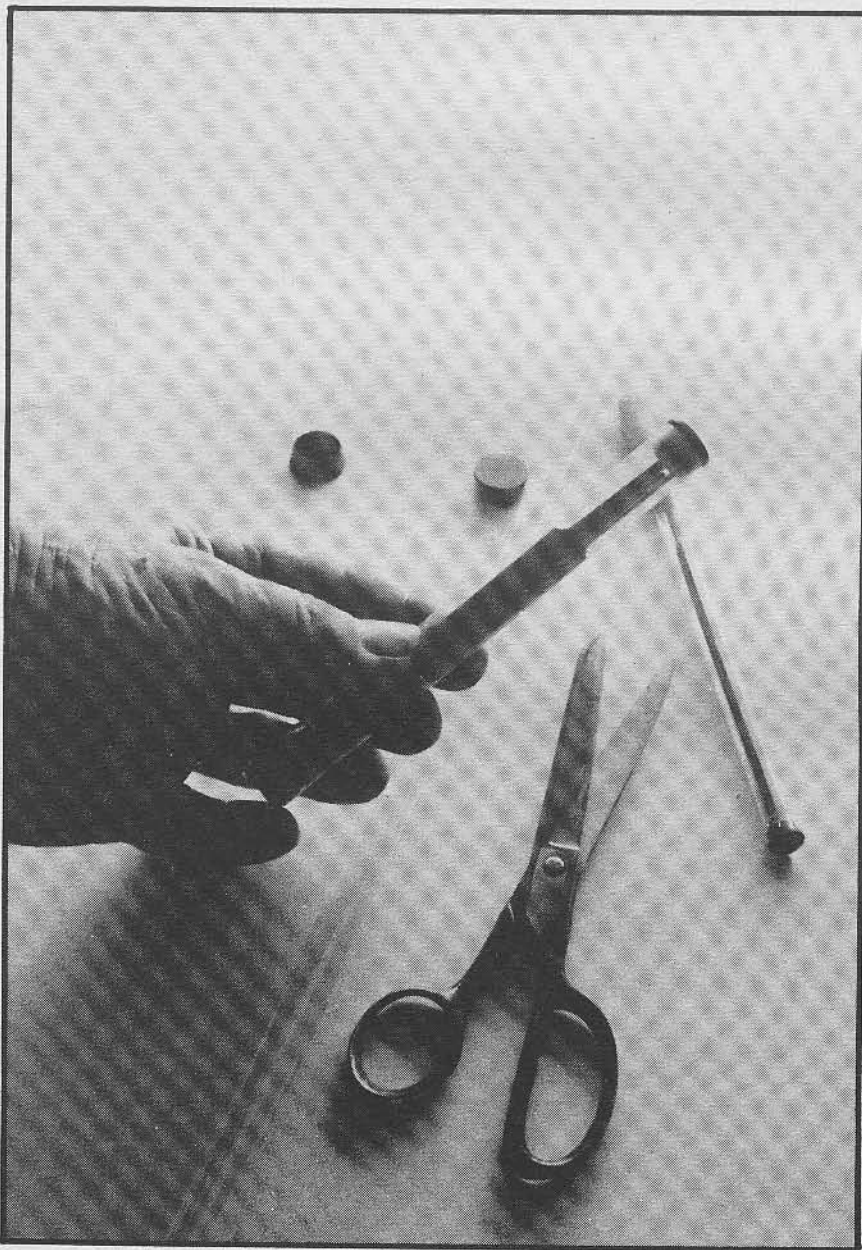


on the bench's leg braces. Such shelves also will increase the bench's stability. This area is excellent for storing such items as buffing compounds, buffing wheels, extra sanding paper or any other items that do not fit easily into your toolboxes.

Good lighting is an absolute must for good work, so a two- or three-tube fluorescent lighting system should be

installed over the workbench. If possible, install one of the fixtures that is four feet in length. It will save your eyes to say nothing of assuring that your work is as good as you can do. As a rule, poor lighting usually results in somewhat rough work! However, in lieu of the fluorescent lights, a couple of shaded lamps should suffice. In my own shop, I use both.

Small tools, such as these screw-slot files are stored in plastic tubes to protect them, as well as other tools, from damage through rubbing contact.



On the back wall, near or over the workbench, it is wise to have at least a couple of plug-in light sockets in case you might need to use such items as the Dremel Moto-Tool, an electric soldering iron or an electric drill motor. An electric heater in the cold of winter is also useful!

Fully realizing that each individual will have his own ideas as to just how he wants his shop laid out, this chapter is written primarily for the benefit of those who just don't know where to start in arranging some place to conduct their gun work. It doesn't have to be fancy or elaborate, but make it comfortable, build it solidly and arrange it so you don't have to wear out your eyeballs trying to find something. To repeat an old cliché, have a place for everything and everything in its place. Arrange the drawers of your tool chests so that each contains a specific type tool or its close counterpart. Thus drills, taps and dies should be in one drawer, with nothing but mathematical precision instruments in another and so on.

A suitable place to work is ideal. However, I remember that many years ago, I had just sold my gunshop and, living far out in the hills as we did, I did not have any place to work except in a cold barn. A beat-up workbench that surely was a hundred years old and plenty rickety was the best I had in the beginning. In spite of this primary drawback, I still proceeded to build both a percussion rifle and pistol that turned out to be great shooters. This was accomplished in spite of the fact that I did it with no power tools, was quartered in a leaky barn and had to put up with that rickety workbench.

I still have those two guns and think of them and their origin every time I hear some would-be craftsman belly-aching about his lack of a plush workshop. The tools are inanimate things; they have no brains, feelings or sense of direction. All it takes to make them perform sometime miracles is to place them in the hands of a person with creative instincts; in short, a craftsman!

Extra drills, taps and dies deserve special treatment. These have been stored in a compartmented plastic case. Even with this protection, the special carbide drills and gun taps have been stored in their own plastic tubes.

