

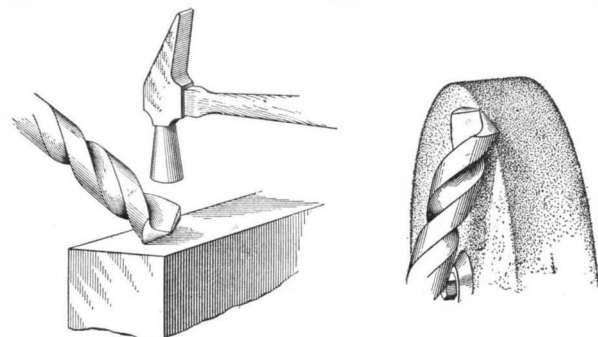


The Editor of Handy Man's Workshop will be glad to receive any hints for this department and pay for them if available.

#### SIMPLE DRILL CLEARANCE.

BY ALBERT F. BISHOP.

When the drill pinches and squeals on drilling through pieces of wrought iron and copper, and is liable to



A SIMPLE DRILL CLEARANCE.

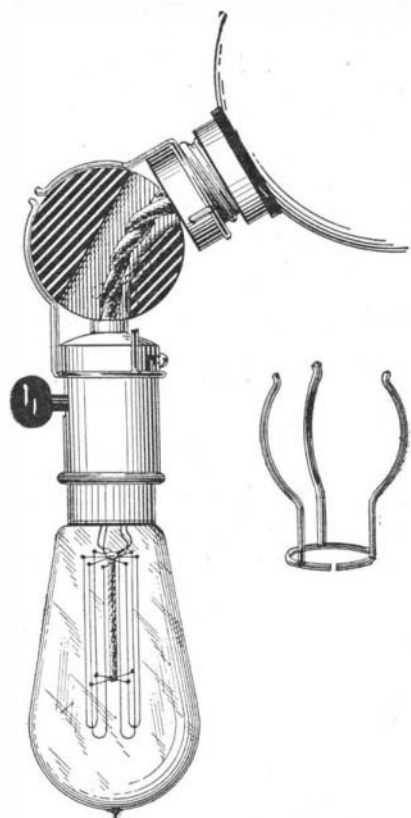
twist off before you get the job done, why don't you swedge it? Use a small hammer, and be careful not to chip the corner, as the drill is swedged cold. Just touch the fluted part lightly on the emery wheel, bringing back a nice cutting edge and leaving the swedged corner projecting a little. The writer has used this little wrinkle for a number of years, and masters those stubborn pieces with ease.

#### HOME-MADE ADJUSTABLE SOCKET FOR TUNGSTEN LAMPS.

BY JOHN A. BERGSTROM.

The accompanying illustration shows a very simple way of making an adjustable socket for tungsten lamps, in which the lamp will tend to hang perpendicularly of its own weight. A cage is first made consisting of three or more prongs, brazed to a split ring, which is slipped over the lamp socket. A similar cage is made to slip over the neck of the plug. The prongs may also be soldered to the socket and the plug. These prongs must be long enough to extend past the center of a solid rubber ball, which is to unite the lamp socket and plug. The rubber ball may be purchased at any toy store.

With a thin metal tube cut a hole through the center

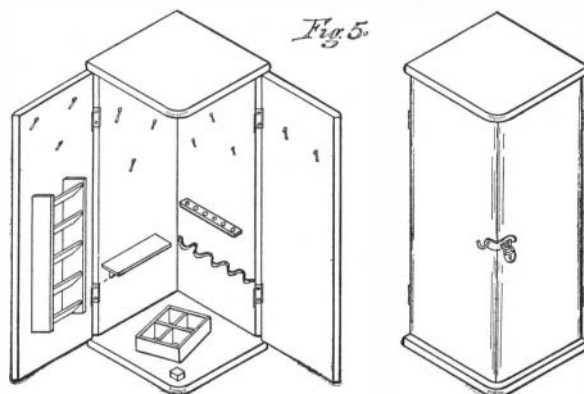


ADJUSTABLE SOCKET FOR TUNGSTEN LAMPS.

of the ball. This is easily accomplished by turning the metal tube with one hand and holding the ball with the other. By running the tube through the rubber a second time at an angle to the first hole an oblong bore is made, such as shown in the illustration. Through this hole put an ordinary lamp-cord and connect one end with the plug and the other with the lamp socket. Now screw the plug into the bracket and turn the ball so that the lamp socket hangs perpendicularly. Then screw in the lamp. It will be seen that almost any angle may be obtained.

#### FURNISHING THE WORKSHOP.—III. BY L. G. BAYLEY. (Continued from the issue of February 6th.) A CORNER CABINET.

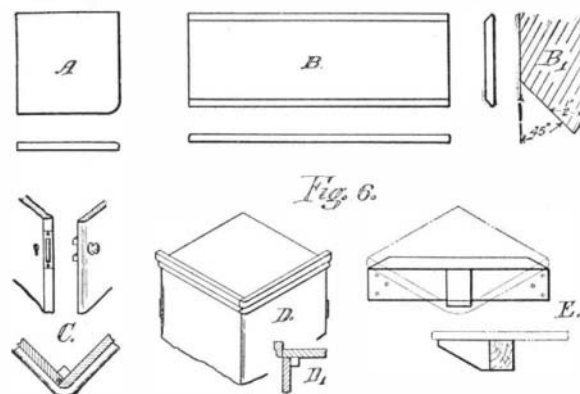
The large heavy tool chests which were at one time so much in use are very awkward to get at, injurious



THE CORNER CABINET OPEN AND CLOSED.

to the tools, and in other ways inconvenient and out of date. A cabinet secured to the wall, within easy reach, is more convenient, and each tool can be seen at a glance, having its appointed place, hung either vertically or horizontally on a peg or shelf or in a drawer within the cabinet. A tool cabinet is cheaper, and is made more easily than a chest. By referring to any tool catalogue, it will be seen that it is simply a flat oblong box with a recessed lid. The latter can be made from a box procured at a hardware store or box factory at little expense. But to have something different is generally the desire of most boys.

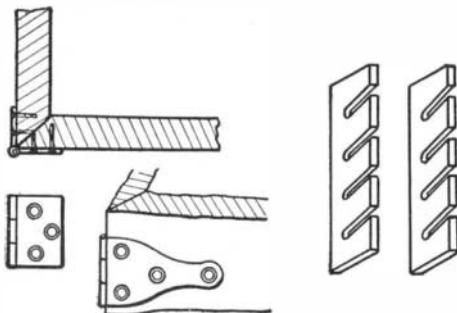
The corner cabinet, or cupboard, shown in Fig. 5, and detailed in Fig. 6, is not only original, but more easily made than any of the foregoing tool chests or cabinets.



CONSTRUCTIONAL DETAILS OF THE CABINET.

The top and bottom are made from two boards, 13 inches square by 1 inch thick. The projecting corner is rounded off to a radius of  $1\frac{1}{2}$  inches, and the adjacent sides have their edges slightly rounded, as shown at A in Fig. 6. Four sides, B, are cut from 1-inch boards, 2 feet 9 inches in length and 12 inches wide. The edges are chamfered at an angle of 45 degrees, and the corners rounded off to a radius of  $\frac{1}{2}$  inch, as detailed at B<sub>1</sub>. Two of the sides, B, are secured together with nails and glue, and the top and bottom nailed in position, flush with the outside edges, which are square, allowing the cabinet to fit close against the corner of the shop. The other two edges, which are rounded off to give a neat finish, project 1 inch, as clearly seen in Fig. 5.

Either a padlock, with strap, can be used to lock the cabinet, or a flush lock, as shown at C in Fig. 6. Two blocks of wood, for the doors to bear against



HOW THE HINGES ARE APPLIED.

BACK FOR CHISELS.

when closed, are secured to the bottom and underside of the top, 2 inches from the edges. These are shown in Fig. 5, and at C and D<sub>1</sub> in Fig. 6. If desired, the top and bottom can be made 12 inches square, and finished off with a cornice, as shown at D and D<sub>1</sub>.

The cabinet can be supported on a bracket, made from a piece of 3x4-inch timber, as detailed at E. Spikes driven into the wall, through the sides of the cabinet, will further secure it.

Two hinges should be on each door, either made flush, as shown in the general view, Fig. 5, or on the outside, as shown in the accompanying detail view.

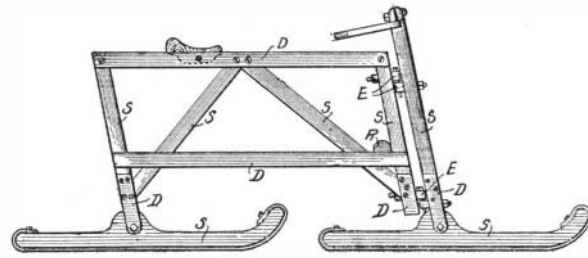
The furnishing of the cabinet is a matter of choice, and depends to a certain extent on how many tools are placed in it. The saws and lighter tools should be hung upon the doors, the heavier tools inside. Shelves and racks of wood or leather, for the bits and handle tools, can be easily made. A rack constructed as shown, hung upon the door, will be found very useful for small tools. Chisels, etc., can be supported on vertical strips of board, notched as shown in adjoining sketch. Either a plain oil finish or the natural wood is all the cabinet requires when complete.

(To be continued.)

#### BICYCLE COASTING SLED.

BY E. E. CLOCK.

The accompanying drawing and photograph illustrate a new type of coasting sled built on the bicycle principle. This coaster is simple and easy to make. It is constructed of a good quality of pine. The pieces



CONSTRUCTION OF THE SLED.

marked S are single, and should be about  $1 \times 1\frac{1}{2}$  inches; the pieces marked D are double or in duplicate, and should be about  $\frac{1}{2} \times 1\frac{1}{2}$  inches. The runners are shod with iron and are pivoted to the uprights as shown, double pieces being secured to the uprights to make a fork. The seat is a board, to the



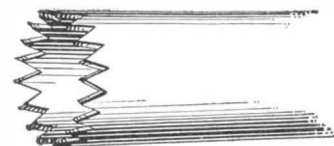
BICYCLE TYPE OF SLED.

underside of which is a block, which drops down between the two top slats and is secured with a pin. A footrest, R, is provided consisting of a short cross-piece secured to the front of frame and resting on the two lower slats. The frame and front fork are hinged together with four short eyebolts, E, with a short bolt through each pair as shown.

#### HOW TO DRILL THROUGH BRICK AND SOFT STONE.

BY E. A. JOHNS.

The accompanying illustration represents a very good drill for brick walls and soft stone. The drill is



DRILL FOR BRICK WALLS AND SOFT STONE.

made of an ordinary gas pipe and the end is serrated, which can be done with an ordinary half-round or three-cornered file. In boring a hole, the end of the drill is tapped lightly with a hammer and turned slightly after every blow.

#### ANOTHER METHOD OF REDUCING THE RANGE OF A SPRINGFIELD RIFLE.

BY GEORGE E. HUGGINS.

On page 29 of the issue for January 9, 1909, there is an article on reducing the range of Springfield rifles. I think there is a better way.

First pull the ounce ball that comes in the loaded shells. Then clean out the powder, and reload with 20 grains of black powder is used. Cover this with a tight-fitting wad. Then fill the shell with fine sawdust, coarse cornmeal, or something of that nature. Next force in a round ball of 44 caliber with a patch of strong cloth that is thick enough to make a snug fit. The benefit of the patch is that it prevents leading of the rifling. The government loading tool crimps the shell at the muzzle. This crimp must be taken out before reloading the shell. The sawdust and wad clean the gun at every firing.