



# Conserve O Gram

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## Fabricating Secure Hangers For Framed Works Of Art

Museums and historic houses need to secure framed works of art on exhibit from theft and disaster. When framed works of art have to be hung in vulnerable locations, they may be subject to grab-and-run theft; therefore, it is essential to hang them from security hangers designed to inhibit theft. When the park's museum is in an earthquake zone, it is prudent to secure all framed objects against falling and other shock hazards. This *Conserve O Gram* describes how to fabricate several different types of hangers from commonly available hardware.

Hangers can be fabricated in order to suit special protection requirements or simply to save money. The hangers described and illustrated here suggest only some of the many possibilities. Hardware stores and mail order houses can supply all the required materials at very low cost. Most parks will have some of the materials on hand for other purposes. Readers who have devised other types of homemade hangers are invited to submit their designs to the Curatorial Services Division so this *Conserve O Gram* can be revised and expanded.

### *Fabricating Hangers*

**Snap Hook.** Perhaps the most secure hanger is an ordinary snap hook bolted or screwed to the wall. (See Figure 1.) One or more washers may be needed to ensure the proper mounting angle, depending on the shape of the hook and on how close to the wall it needs to be. Snap hooks are somewhat longer than ordinary picture hooks; therefore, it may be necessary to shorten the hanger wire on a picture to prevent the hook from being visible above the frame.

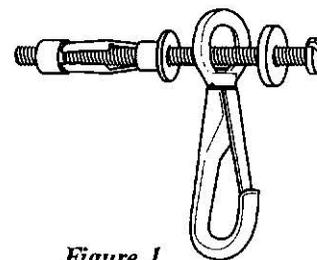


Figure 1

Many different spring and bolt snap hooks are on the market; select the type and size that will best meet design requirements. For convenience in hanging and removing framed objects, select a hook that is operable with only one hand. Be sure the hook is large enough to support the weight of the picture but small enough to fit the space available behind it. Use stainless steel or bronze hooks because they can support the most weight. Use more than one hook when additional support or security is needed.

The picture suspension wire passes through the hook and can be removed only by depressing the hook spring (or by cutting the wire). The larger the framed work hung from such a hook, the more difficult it would be for one person to remove it.

**Warded Suspension Hook.** This type of hook thwarts grab-and-run theft because the wire cannot be easily or quickly lifted off the hook without looking or feeling behind the framed object. (See Figure 2.) A warded suspension hook should be made from a flat piece of stiff aluminum, stainless steel, brass, or other metal that will not rust or corrode. A piece about 3½" to 4½" long, about ½" wide, and about 1/16" to 1/8" thick should be sufficient. Smooth

all cut edges and drill one or two mounting holes near one end. Space and size the holes according to the type of screw or bolt that will be used for mounting. In a bending jig or with needle-nose pliers, bend the other end of the metal strip into a nearly closed, somewhat *springy* loop as illustrated. The actual width and shape of the loop are not important so long as the tip of the bent strip almost touches the flat portion of the strip. If the hook can be made approximately the same height as an ordinary picture hook, it may not be necessary to shorten the picture wire to prevent the hook from being visible above the picture. Attach the hook to the wall with appropriate screws or bolts. More than one hook can be used in order to support heavy pictures.

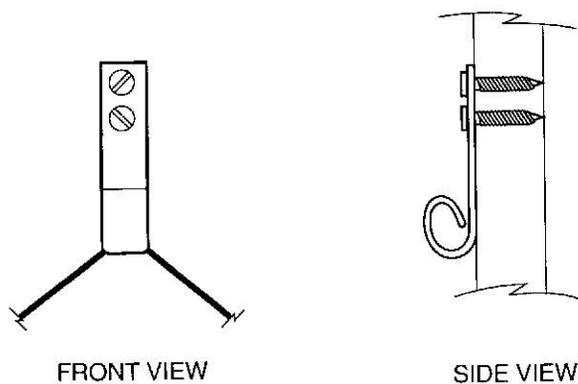


Figure 2

To hang a picture, lower the suspension wire over the rounded upper side of the loop, allowing the wire to slip between the tip of the strip and the flat portion of the strip and to rest on the inside of the loop. To remove the wire, guide it up and out the narrow opening. When pictures hung this way need to be removed, it is a good idea for at least two persons to be involved.

**Inter-Locking L-Hooks.** These hangers use the same hardware: ordinary chromed steel or bronze L-hooks with screw threads. If mounting on drywall is necessary, a variety of anchors can be used with these hooks since they have wood

screw threads. L-hooks with machine threads are hard to find, but can be made easily by bending threaded rod or bolts with the heads cut off. Mount machine threaded L-hooks on drywall with properly sized anchors. An L-hook with the right size of machine threading can be screwed in place of the bolt that comes in a hollow wall expansion anchor. Mount L-hooks on masonry surfaces with any plastic or lead anchor that will accept wood screws.

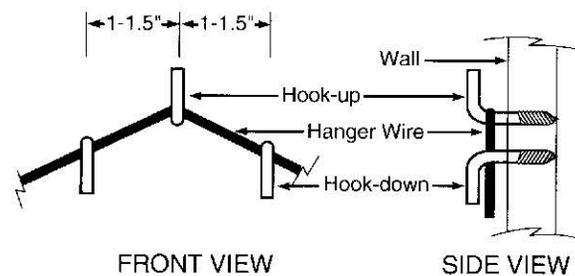


Figure 3

One L-hook can support the picture wire. Two more hooks of the same type are on either side of it, slightly below and inverted. The purpose of these flanking *guard hooks* is to prevent the picture wire from being lifted off the suspension hook quickly and to prevent the picture from falling during an earthquake. The horizontal and vertical spacing of the two guard hooks relative to the suspension hook is not fixed; the hooks should just touch the top of the suspension wire. (See Figure 3.)

When hanging wide pictures, two suspension points may be desirable. Install two widely separated L-hooks to suspend the picture. Then on the outside (i.e., the side toward the vertical edges of the frame) of each hook and below it, install a single inverted guard hook just above the picture wire. Inside guard hooks should not be necessary but, if desired, would have to be placed on the same level as the suspension hooks, and simply turned down over the wire between them after the picture is hung.

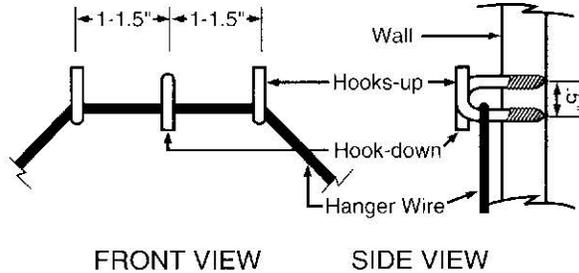


Figure 4

A picture can also be secured by suspending it by wire from two L-hooks with one inverted guard hook between them. (See Figure 4.) This variation on the previously described arrangement can be considered when dual suspension is required for pictures of normal width but extra weight. The screw of the guard hook should be mounted on the same level as the screws of the other two hooks so that the suspension wire passes just beneath it when it is inverted over the wire. It is possible to mount the guard hook several inches down from the suspension hooks, centered between them. This arrangement would require a somewhat-longer-than-normal suspension wire, but might hold the picture more securely, especially against falling, because of the tension that would be exerted on the wire.

**Angle Brackets** (see Figure 5) and **Security Straps** (see Figure 6) can be used to secure pictures hanging from picture wire. They can be used to make pictures hung from conventional hooks slightly harder to remove and can be used as additional security when hanging pictures from any of the security hangers previously described. Brackets and straps afford equal protection, but the brackets usually are less visible to viewers.

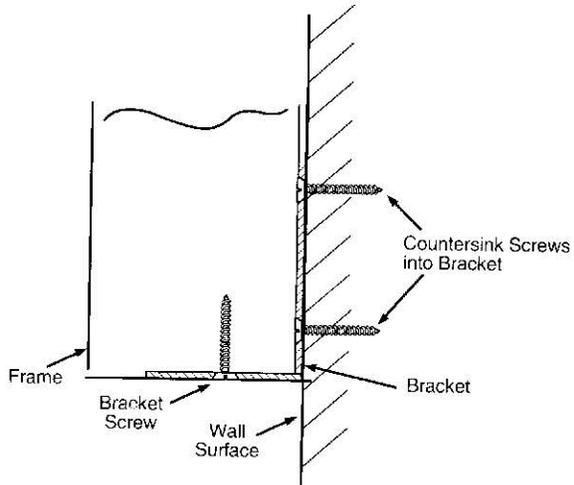


Figure 5

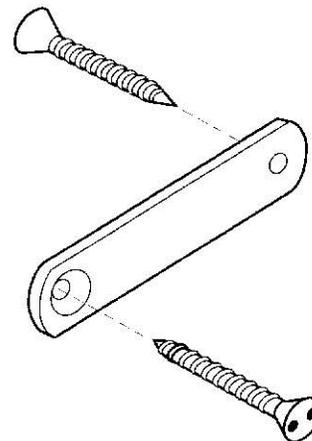
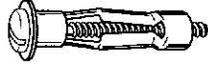


Figure 6

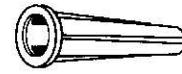
All of the hangers can be mounted on walls with wood or sheet metal screws using expansion anchors. (See Figure 7.)

**Hollow Wall Screw Anchor.**

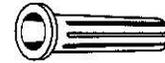
For use in hollow wall. Tightening nut causes anchor to expand against inside wall.

**Plastic Lipped Screw Anchor.**

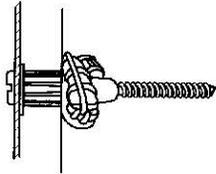
For use in solid or hollow walls and with either wood or sheet metal screws.

**Lead Screw Expansion Anchor.**

For use in either cement or masonry. Made of special lead alloy. For use with either wood or sheet metal screws.

**Poly Expansion/Twist Anchor.**

For use in hollow wall, cement or masonry. Use sheet metal screw to twist polyethylene segments.

**Jack Nut Anchors.**

For hollow walls. Will work in space as small as 3/8" thick.

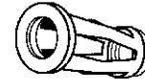


Figure 7

All of the fabricated hangers should thwart grab-and-run thefts and keep pictures from falling due to shock. They are intended to replace conventional picture hooks and are designed to support frames on some type of picture wire. Most of the fabricated hangers may be used singly or in pairs; one fabricated hanger, the inter-locking L-hook, is intended for multi-point mounting.

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