# <u>Mastering</u> Mounting



by Chris A. Paschke CPF, GCF

## Wire & Hangers

electing the correct wire to support a frame is every bit as important as using the right hardware. Picture frame wire comes in many different types and weights. There is multi-strand braided galvanized steel, twisted stainless steel, stainless plastic coated, copper plastic coated, and nylon coated sleeve systems. Galvanized is the most used but the least effective of all wire. Plastic-coated stainless wire will not mar walls or the back of picture frames nor will it hurt hands during installation. It is also corrosion resistant and won't rust or discolor. Coated copper is softer and easier to work with but does not have the strength of stainless steel.

Weight — As the diameter of braided galvanized steel wire increases, the strands remain constant in size but additional strands are added to the braid. A #2 braided wire has 12 strands while a #8 braided has 36 strands. In contrast, all stainless steel wire contains seven strands that have been tension twisted like a cable; as the wire gets larger, the strands increase in diameter. This makes twisted wires comparatively stronger than braided but also less flexible.

When selecting the correct weight wire for your painting, your choice varies depending on the type of wire. The breaking strength of a galvanized wire should be four times the weight of the frame, while it is three times for a coated stainless wire. A 10-pound painting therefore requires a 30pound maximum weight stainless wire but a 40pound galvanized braided wire.

A #3 braided wire has a maximum capacity of 16 pounds while a #3 stainless steel picture wire has a maximum strength of 20 pounds. Though a



Coated stainless #6 and #8; coated copper #9; stainless #3; braided; and two weights Sevalon sleeve system with crimper tool.



Crimping tool/wire cutter top. Wire is fed through sleeve three times (R) only twice (L).



Small narrow base 2-1/4"x1" heavy strap, small narrow base 2"x5/8", medium narrow base 3-1/4"x5/8", and large wide base 3-3/4"x1" heavy strap hangers.

#3 braided and #3 stainless have the same breaking point at 68 pounds, the stainless wire can handle a heavier painting. The larger and heavier the wire, the more the variation there is between braided and cabled wire. A #8 braided wire, for example, is rated at 36 pounds with a 145-pound breaking point, while #8 stainless holds 60 pounds with 170pound breaking point. Note that the softer coated copper wire has a breaking strength of 170 pounds, but a maximum frame weight of only 40 pounds.



Parallel strap hangers with twisted wire.

Sleeve Systems — Sleeve systems offer a very high-end appearance and are easy to install but cost more than coated wire. Sevalon, Eagle Klaw, and Surflon are nylon-coated systems with a crimper for wiring frames. The coated stainless wire is available in black, bronze, and clear coating with matching crimping sleeves. A crimping tool is necessary to crush the metal sleeve that clamps the wire in place. The wire should be fed through the sleeve, around the hanger of choice, and then slid back through the sleeve. To assure that the wire will not slip, it may be turned



Super Steel Hangers 2-hole (L) and staggered 4-hole.

back and passed through the sleeve a third time. Make certain the sleeve is well crimped.

When choosing a wire, pay close attention to the types and weights of frames you will hang. Framers will need to stock an assortment of wire weights. Most likely, a coated stainless steel wire will be the best choice, and a #3 or #5 should handle most needs. Keep in mind that it is better to use a wire that is too heavy than one that's too light.

#### **Strap Hangers**

Heavy-duty D-ring hangers are also called strap hangers, mirror hangers, or ring hangers. They can be used with or without picture wire and are intended for hanging mirrors, heavy wood frames, gallery wraps, or cradled boxes. Strap hangers are usually constructed of heavier steel and accommodate #6x1/2" screws for small two-hole strap hangers and medium fourhole strap hangers, and #8x5/8" with large three-hole heavy metal strap hangers. If hung without wire, they are aligned vertically at the upper corners on the back of the frame and suspended directly on substantial wall hangers or screws anchored into the wall.

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Two screweyes and badly twisted wire illustrate a weak hanging system that could easily fail.

**Installation** — Lay a frame face down and attach a strap between a quarter to a third of the way down from the top and align it at the desired angle of the picture wire when hung using two wall hooks. Select hangers and screws large enough to accommodate the weight of the frame. Pre-drilling all screw holes helps avoid splitting the wood. Using parallel strap hangers with picture wire twisted together to reinforce and increase the allowable frame weight has been suggested. While the strength is increased with two hangers, the stress on the screws and side legs of the frame are also increased, particularly with heavy installations such as large mirrors. A



The 4-hole version has slightly staggered holes to dissipate the stress of the wood.

better solution is to use heavy-duty strap hangers placed vertically without wire. Still another option is to use steel hangers or plates.

#### **Steel Hangers**

Super Steel Hangers are available as two-hole and four-hole styles having the screw holes located both above

#### Sources

#### Hard To Find Items

www.artmaterialsservice.com Straps, Super Steel Hangers www.framewareinc.com Steel Wire Hangers, Strap Hangers, D-rings Flanger Narrow, D-rings, Strap Hangers www.govart.com Flanger Narrow, D-rings, Strap Hangers www.picturehangsolutions.com Flanger Narrow, Medium and Wide, assorted other hangers www,mmdistributors.com Super Steel Hanger, Strap Hangers. D-rings www.picturehardware.com Strap Hangers, Super Steel Hangers www.artright.com www.unitedmfrs.com Flanger Narrow, Medium and Large, Straps, Super Steel Hangers



Flanger #932 is for narrow 1/4" to 1/2" mouldings. Note the full length bent flange for support.

and below the ring for attaching the wire. The 4-Hole Super Steel Hanger is 3-1/2" long, 1/4" wide for heavy art and supports up to 100 pounds. The shorter 2-Hole Super Steel Hanger is 2" long and 1/4" wide for art up to 50 pounds. These hangers are designed to be mounted vertically a quarter to a third of the

#### **Spring Clips**

Another common piece of hardware is the spring clip. A spring clip used in framing is a flat, U-shaped metal band—structured like a recurve bow and made of spring steel. It is used to retain artwork in sectional metal frames. These clips offer a quick fix for snugly holding art packages and are frequently used with metal frames that cannot use staples or points.

Though commonly used by artists and economy framers, they are less

desirable than first appears when framing collectibles or original art on paper. The same pressure that holds backing boards and glass against the front lip of the frame also creates unfavorable pressure points along the perimeter of the art. The strength and constant pressure of the clip can indent board at those pressure points. Foamboard generally absorbs that



Spring clip hold stretched canvas.

compression damage, but matboards, rag backing boards, and Coroplast do not.



Spring clips are recurve flat metal strips used to press art package to front of frame.

In humid environments, the areas between the clips (which have no pressure) can absorb moisture and warp as the paper expands, creating a wavy window mat. This damage cannot be reversed because once paper fibers have been swollen by moisture, so they never return to their original size. A warped mat will need to be replaced. Matted art is not impacted

by swelling or pressure points. But rather than risk an unhappy customer, it might be wise to replace clips with additional filler boards. Cut the samesized filler boards from scuffed or surface damaged, unusable mat blanks or

foamboard and fill the fit space with two faded 4-ply mat blanks easily slipped into the metal frame channel. This supplies adequate filler support and eliminates all pressure points.

Spring clips are perfect for fitting commercial stretched canvases or wood panels, as they cradle into metal frames. They support wood substrates or bars and won't warp



Pressure indention created by spring clip could be avoided with filler boards.

with humidity, minimizing package damage. Just make certain the front edges of any original art panel or canvas is protected from contact with the metal. (See *Framing Works of Art on Canvas* by Paul MacFarland, published by PFM Books). way down from the top of a frame, either centered on a narrow moulding or about 1/2" from the inner edge of wider moulding. They can be used with #4 or #6 screws in varying lengths appropriate for the moulding. The longer four-hole version has staggered holes to spread the stress on the wood and reduces hardwood splitting. Multiple screws also increase security with MDF or soft wood.

The Super Steel Hanger is a good hanger if you want the extra holding power of a multiple screw hanger without the bulk and size of a strap or D-ring. These hangers are stronger than D-rings because of the multiple and staggered screws and put less stress on narrow mouldings than long strap hangers, which cannot be angled on narrow frames. (Super Steel Hangers are available from AMS, Picture Frame Company, Artright, United, and M&M.)

#### **Flanger Hangers**

Using screweyes on very narrow moulding is not a good choice. It's even worse when the frame is heavy enough to warrant a twisted-wire installation. When a frame is too narrow for a D-ring, strap, or steel hanger, another option is the Flanger. It has a 90-degree bend along its full length to grip the inside edge of narrow frame moulding, reducing the risk of wood splitting and eliminating screw tear-out. It minimizes bowing and gives a frame more strength and stability, and its flat profile holds closer to the wall. The wire attachment is slightly angled, so the hardware is sold as mirrored pairs marked L and R.

Installation is easy. After apply-

ing a dust cover, make a slit through it the length of Flanger hardware at the proper position on either side. Then pre-drill the holes and screw it into place. These hangers are ideal for narrow frame diplomas; photos; and deep, heavier shadowbox frames. The wider versions offer the same non-twist security, but strap hangers or steel plates might be just as effective. The Flanger Narrow Hanger fits 1/4" to 1/2" mouldings and supports up to 50 pounds. Flanger Medium Hangers fit 1/2" to 1" mouldings and support up to 70 pounds. Flanger Wide Hangers fit mouldings 1" to 4" and will support 100 pounds. (Available from M&M, United, and Picture Hang Solutions.)

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Galvanized Braided			Coated Stainless Steel			Coated Copper/Gold			Sleeve System		
Size	Max Wt	Break Wt	Size	Max Wt	Break Wt	Size	Max Wt	Break Wt	Size	Max Wt	Break Wt
#2	12#	50#	#2	15#	40#	#2	15#	37#	#2	30#	80#
#3	16#	68#	#3	20#	68#	#3	20#	50#	#3	40#	100#
#4	20#	85#	#4	25#	75#	#4	25#	62#	#4	60#	150#
#5	24#	98#	#5	43#	105#	#5	30#	85#			
#6	28#	115#	#6	50#	150#	#6	45#	170#			
#7	32#	130#							#7	90#	250#
#8	36#	145#	#8	60#	170#						
			#9	90#	250#						

This chart reflects suggested and average weights and size numbers. Maximum frame weight varies with wire manufacturer, style and coating. Braided suggests 4x the frame weight to equal break point, while stainless is only 3x allowing to accommodate heavier frames.



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