

Double-Hungs Restrung

More than just fishing for sash weights

by David Strawderman

I get a lot of calls from clients who want me to replace their windows. Often the old windows are wood sash that have been neglected and are on the verge of falling apart. And sometimes I'm hired to yank out a wall of replacement metal windows that clash with the style of the house. There are many instances, however, when it's best to restore the original windows to working order. This was certainly the case with John and Nina Heaths' recently acquired home. Located in the elegant Hancock Park district of Los Angeles, the house was originally constructed in 1923 by the contractor who built many of the fine surrounding dwellings.

The house was structurally sound, but it had suffered many remodels and lost a good deal of its original refinement. And a lot of things didn't work—like 30 double-hung windows.

Windows with a twist—The windows appeared to be regular old-fashioned double-hung sash of the type popular from the turn of the century to the second World War (drawing below). They were equipped with cords, pulleys and iron weights for counterbalance. A traditional thumb-latch secured the upper and lower sash and a recessed brass finger-pull assisted in raising the lower sash. But unlike other double-hung windows that I had worked on, this finger-pull had a small knob in its center, the significance of which I would soon learn. A closer inspection revealed nice touches. All the interior stops were secured by screws rather than by the usual finish nails. The lefthand parting strips were affixed with flathead screws, a clue that dismantling should proceed from that side.

Most of the windows were painted and caulked shut, but I found one that could still be opened. When I lifted the lower sash, I was surprised to find a split sill containing a recessed wooden bar. A spherical-headed screw protruded from the bar, and when I pulled on it with a pair of pliers the wooden bar revealed itself as the top rail of a concealed window screen. I now understood the function of that knob in the finger-pull: it operated a claw mechanism that clasped the screw protruding from the screen frame. A 90° turn released the screw so the sash could be opened without the screen. The upper sash had a mechanism with a similar device. I was working on a houseful of windows with retractable screens.

It took me two hours to partially dismantle the first window. As it turned out, nearly one man-day was needed to return each window to full working order. Although the retractable screens presented special problems, the steps I took to rejuvenate the windows are similar to those required for all double-hung windows.

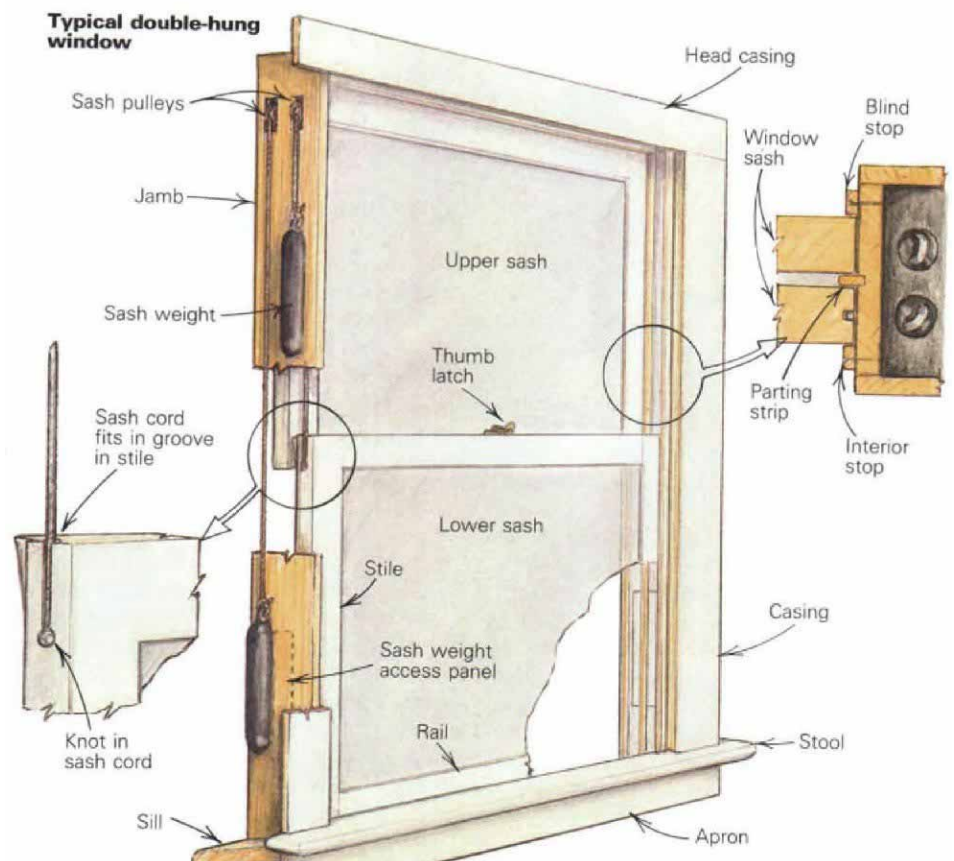
Curing sash paralysis—The first step in restoring the windows to full operation was to free each sash. I used a sharp utility knife to cut the paint and caulk between the sash and the stops. This reduces splintering and paint chipping along the intersections of the stops and the sash. Next I used a small flat bar to gently pry the corners of the sash away from the stops. It's a bad idea to pry from the center because old sash rails are often weak, and excessive pressure will crack the glass. For removal, the lower sash must lift enough to clear the sill lip, and the upper sash must move down enough to clear the pulley assembly.

Next I removed the left interior stop. Be-

cause these were secured with screws, they were relatively easy to dismantle. Most interior stops, however, are fastened with 6d finish nails, and they should be pried loose with a wide putty knife. I begin near the center of the stop, as the ends tend to be encrusted with thicker layers of paint where they abut the upper stop and sill. Once the middle is free, the ends usually pop out. Then I remove the nails and set the stop aside.

The lower sash of a typical double-hung window can be maneuvered out of its channel once a stop is removed. But these weren't typical windows. They had flashings along their stiles that interlocked with metal channels affixed to the parting strips. As a consequence, I also had to remove the left parting strip before I could pull out the lower sash.

Parting strips are usually unpainted, making their extraction a pretty straightforward process. The parting strip is a single 3/8-in. by 1/2-in. piece of wood let into a groove in the jamb. It is usually secured with three or four



finish nails. I located the nails and used pliers to gently rock the strip sideways at each nail [I always place thick cloth or cardboard between tool and wood to prevent marring]. Then I slowly pulled it straight out.

The lower sash was finally ready to be removed. Holding it by the rails, I angled its left side into the room and pulled it out of its channel on the right.

Most old double-hung windows have cotton sash cords that deteriorate over the years. Eventually they break and the sash weights drop as far as possible into the wall. Consider it good fortune if you find an intact sash cord, and treat it gingerly. I learned this the hard way—by losing the cord through the pulley. With a helper holding the window, I disengage the cord from the sash and tie the loose end around a short piece of dowel. I repeat for the upper sash. The next step with these windows was the removal of both screen sashes.

Finding the lost weights—Many window frames have access panels, making it a simple process to remove the cover plate and retrieve a weight that has parted company with its sash cord. The weight should be resting on the top of the interior sill extension.

Other window frames, however, have no access panels. Sometimes you can pull the casings off the window frame to get at a lost weight. But that wasn't the case here. The casings were narrow strips that had been plastered in place. As a result, I had to cut access holes in the window jambs (top photo).

Before cutting the holes in the jambs, it helps to calculate the length of the sash weight. Knowing the length tells you how far the access hole needs to extend above the sill to reach the top of the weight. Most weights vary from 4 lb. to 10 lb., and their lengths range from 8 in. to 16 in. To find the length of a sash weight, follow this formula: $\frac{1}{8} \times \text{sq. ft. of sash} = \text{pounds of each weight}$; $1\frac{1}{2} \times \text{pounds of weight} = \text{length of weight in inches}$ (based on weights $1\frac{1}{4}$ in. in diameter). The poundage is usually stamped in Roman numerals on the side of the weight.

As shown in the photo, I positioned the 2-in. by 14-in. access hole so that most of it is concealed by the inner stop. After drilling pilot holes at the corners of the layout, I used my jigsaw to make the cuts in the jamb.

Once the hole is opened up, the weight may be visible. Use a heavy coat hanger to snag it by the eye. If you don't see it, use the wire as a probe. It is often possible to hear metal on metal and to hook the weight. If these maneuvers are not fruitful, use a small mirror and narrow-beam flashlight tied to a string to search the dark recesses.

Restringing the weights—My pulleys were brass-plated steel, and after 65 years they were still in excellent condition. A little cleaning and a couple of drops of machine oil on each shaft got rid of the squeaks and returned the pulleys to smooth working order. This kind of pulley is held fast by a couple of screws, and



To retrieve the sash weights, the author cut access holes in the window frames. When reassembled, the hole will be plugged and almost completely obscured by the interior stop. Here Strawderman reinserts a sash weight into its chase after attaching a new cord to it.



Changing cords. We pulled this window's casing to reveal the delicate operation. The sash weight is secured with a screwdriver as the old knot is unraveled using needle-nosed pliers.

can be removed from the sash-side of the window. Cheaper pulleys are often press-fit into the jamb and secured from behind with a pin. They are typically serviced by removing the side casings.

I replaced the old cords with the best nylon-reinforced cotton sash cord that I could find. That is Magnolia Sash Cord (Wellington Leisure Products, Inc., 1140 Monticello Rd., Madison, Ga. 30650; 404-342-1916). When replacing sash cord, it's important to avoid a cord with a separate center core—the outer sheath will often wear through prematurely.

The cords to the upper sash are installed first. Before replacing each pulley, I tied a fishing sinker to one end of the sash cord and lowered it through the pulley mortise to the newly cut access hole. Sinker removed, the sash weight is tied to the bottom end of the cord, while the top end needs to be threaded

from the backside through the pulley. A pair of needle-nosed pliers are good for grasping the cord. Before replacing the pulley in its mortise, I tie a half-hitch knot in the end of the cord to keep it from running through the pulley by accident. Now the weight can be reinserted into its channel.

Weights still attached to original cords should be lifted until the eye of the weight is visible through the pulley opening. I pin the weight there with a long, thin screwdriver driven through its eye (photo below). I cut the old cord and replace it with enough cord to reach the sill, allowing an extra foot for attaching it to the sash.

Reinstalling the sashes—Chances are good that the sashes need repainting, and it's best to prep them before putting them back in their frames. This is also an excellent opportunity to clean and sand the frames. I apply a clear wood sealer (The McCloskey Corporation, 7600 State Rd., Philadelphia, Pa. 19136; 800-345-4530) to the unpainted portions of the frames, stops and the edges of the sash.

Make sure you have a helper for the next step. Place the upper sash in its lowered position. Now pull the cord opposite the removed stop until the weight's eye touches the back of the pulley; then let it down about an inch. Determine where the cord fits into the groove in the sash stile, tie a double knot and cut away the excess cord. Have one person hold the cord between the pulley and the sash. Now insert the cord into the slot, place the sash between the blind stop and the parting strip with the sash's edge touching the frame. Carefully release the cord. Pull the other side of the sash into the room and secure the second cord. Raise the sash to the closed position, and repeat the process for the lower sash.

Once the sashes were all back in their frames, I replaced the weight-access panels. I used small wooden wedges to hold them in place, and caulked the saw kerf. After installing the interior stops, I ran a piece of paraffin wax in the channels made by the stops and the parting strips to help the windows run silently and smoothly. □

David Strawderman is a carpenter working in Los Angeles, California.

Sources of supply

If you find yourself in need of replacement parts for old windows, you'll find a number of companies that make or distribute parts. The best guide to who has what is *The Old-House Journal Catalog* (\$15.95 from *The Old-House Journal Corp.*, 435 Ninth St., Brooklyn, N. Y. 11215; 718-788-1700). It's a good resource to have on hand for other old-house goodies, too. One of the most comprehensive sources of parts is *Blaine Window Hardware, Inc.* (1919 Blaine Dr., Hagerstown, Md. 21740; 301-797-6500). Their catalog (\$2 to homeowners, free to home-building professionals) is filled with measured line drawings that will help you close in on just what you need.