Nuts & Bolts

Volume 28, Number 4
September-October 2010

a newsletter from Home Repair Resource Center

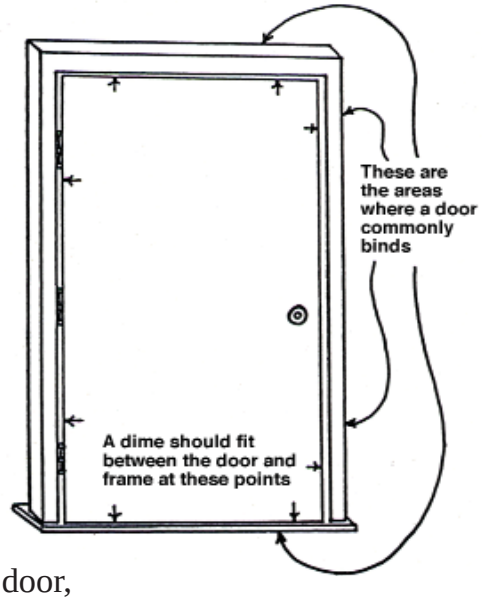
The most probable reason that your door doesn't fit properly is not because your house has settled, but rather because there is too much moisture in the air. Water vapor enters the door through any area that isn't sealed – usually at the bottom – and causes the wood to swell up, until the door sticks and refuses to cooperate.

In this issue...

Sticking Doors

Wooden doors can be a real puzzle. Sometimes they open and close easily, and other times they are really stubborn. Before you can do something about them, you need to understand why the doors are binding. There are several reasons this can happen.

To start with, as your house ages, door frames that were once straight-and-square can begin to sag (much like everything else.) When the door frame is no longer straight and evenly spaced around the door, parts of the frame will tend to catch on the door, causing it to "stick." Usually, by looking at the door, you will be able to see the problem areas.



There are several different ways you can approach this problem. One alternative is to

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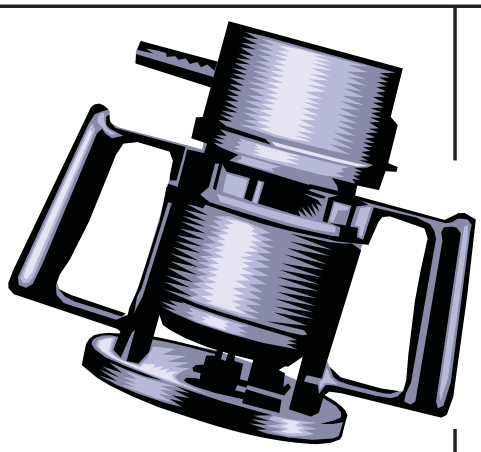
Do the brick piers supporting your porch need repair?

Sometimes you can just tuckpoint the bricks, but often the piers should be rebuilt. Here's what to consider....

Heating bills too high?

Home Repair Resource Center offers several ways to make replacing your heating system with a more efficient model more affordable. Low- and moderate-income homeowners who borrow the cost of a new furnace or boiler using HRRC's equivalent of a **no-interest loan** can receive a **$1,000 grant** (**$1,500 for seniors**) to help with financing costs. You can also **defer half the cost** of the heating system (at no interest) until you sell, move, refinance, or change title to the house. You make no monthly payment on the deferred half, and you can borrow the other half at no interest or provide it from your own resources. Call Allison at 381-6100 for more information. Remember – we can often help even if you can't qualify for a regular bank loan.



Holiday Closings:

Home Repair Resource Center will be closed on Monday, September 6th, for Labor Day.

Plan ahead to get any tools or information you'll need.

Check this out!

Habitat for Humanity's **ReStore** does a great job of "recycling" materials from older homes. It accepts donations of doors, windows, cabinets, etc., that have been removed from existing homes during remodeling or demolition, and sells them to people looking for building materials or period-appropriate fixtures at a low cost. It also resells tools. ReStore provides an alternative to sending usable items to a landfill, and the proceeds benefit Habitat's nonprofit activities.

ReStore's new and enlarged warehouse is located at 2110 W. 110th St. in Cleveland. (Phone: 216-429-3631 or visit their website: clevelandhabitat.org). Whether you are looking to donate or to buy, this is a great resource!

Saturday hours for tool loan and library to end for the season

With the summer repair season coming to a close, September 18th will be the last Saturday that the office will be open between 9 and 10 a.m. for residents to use HRRC's Repair Library and Tool Loan. We will still have our regular walk-in times weekdays from 9 a.m. to noon, as well as extended hours on Mondays from 4 to 7 p.m. and Wednesdays from 4:30 - 7:30 p.m. (Please call ahead to come during these extended times.

Sticking doors

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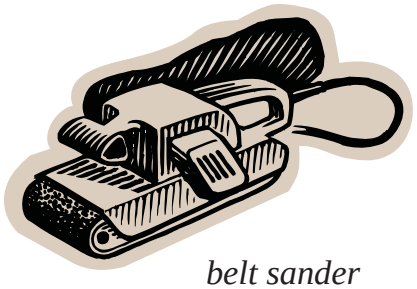
remove both door and frame and reinstall them, making sure that the frame is put in place straight, level, and plumb – regardless of the condition of the wall around it. This process will usually take a few hours of work to accomplish.



belt sander

A second and more practical approach is to shave the door down at the spot(s) where it is hitting the door frame. The easiest way is with a belt sander, although you can also use a plane or even hand-sand these areas until the door fits again.

A third method that will work in a few cases is to remove the top or bottom hinge (depending on where the door is binding,) and place some small shims, such as pieces of cardboard, behind it to make the door fit more evenly. If the door binds at the top, place the shims behind the bottom hinge (or vice versa), and then reinstall the hinge.

However, the most probable reason that your door doesn't fit properly is not because your house has settled, but rather because there is too much moisture in the air. Moisture, in the form of water vapor, exists in every home. It enters the door through any area that isn't sealed – usually at the bottom. (This is the least painted and cared-for part on most doors.) Moisture that is absorbed into the door causes the wood to swell up, until the door sticks and refuses to cooperate.

As your house ages, door frames that were once straight-and-square can begin to sag (much like everything else.) When the door frame is no longer straight and evenly spaced around the door, parts of the frame will tend to catch on the door, causing it to "stick."

In hot, humid weather, there is a lot of moisture in the air. That is the reason that doors are more likely to stick during the summer months. But in winter, with our modern central heating, the air is so dry that we often need to add moisture to our homes to make them livable. Even if you use a humidifier in the winter, there will seldom be enough moisture to cause doors to swell, so the wood "shrinks" to its normal size. When that happens, you can make any needed door adjustments. ***Don't forget to seal the bottoms of your doors, or any areas you have shaved down, with some paint or varnish.***

When a door is properly installed, you should be able to fit a dime around all four sides of the door. If you spend time in the cooler months doing some preventative maintenance – getting each door to fit correctly – they'll swing freely all next summer.

Brick piers

Many older homes have a rear porch supported, at least at one corner, by a brick post, or "pier." This is where many homeowners first become acquainted with masonry work, because invariably these posts need repair. Sometimes you're lucky, and only the mortar between the bricks needs to be tuckpointed. In other cases, the problem is more serious. By their very nature, brick piers suffer from the "ups and downs" of the weather – the changes in temperature and humidity that can cause the ground under them to heave with the seasons. In time, most brick piers tend to tilt one way or another and slowly self-destruct. Because they forge a critical link in the structure of the porch (and the home to which it connects), you can't afford just to ignore them.

As with many other home repairs, the most common reason brick piers fail is lack of proper preparation – in this case, installation of a "footer," the concrete foundation upon which the pier should be built. What you can't see below the ground directly impacts the longevity of what you can see above ground. A footer that is improperly constructed – or missing – will result in an unstable pier, one that is unlikely to remain straight.

Most homeowners, when attempting to correct this type of problem, try to "band-aid" it. They'll try to pull the pier straight or push it back into place. This type of repair will have a relatively short life. Unless the foundation is adequate, the pier will remain unstable and eventually tilt again.

To create an adequate footer for a pier, you must install it below the frost line (the average depth at which the ground typically freezes.) The frost line is about 33 inches in northeastern Ohio, so a footer

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36 inches deep is generally considered safe. The basic rule of thumb is that footers should be twice as wide as the wall that will sit on them. For example, a 2-ft. square pier would need at least a 4-ft. square footer. The footer must support not only the weight of the pier itself, but also everything that will rest on that pier – the

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HRRC to take part in Sustainability Week

The Sustainable Heights Network is organizing a flurry of activity for the week of October 2 - 10. During **Sustainability Week**, local groups will offer educational and fun activities for the entire community, focusing on the environmental, economic, and social aspects of sustainability.

Check out these offerings from Home Repair Resource Center

1. Free presentation:

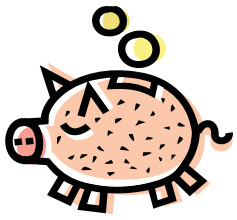
   "Energy Audits: a sustainable approach to assessing building performance and maintaining your older home"
   Wesley B. Walker, BPI
   Monday, October 4th - 7 p.m. - Home Repair Resource Center
   Call 381-9560 to register.

2. Free information:

   "Keeping Your Green: Financial Sustainability Kits"
   Ways to trim your budget and save on everyday things. You can download the kit from our web site or pick one up at our office as of October 1st.

Watch our web site (hrrc-ch.org) or the *Heights Observer* later this summer for additional ways we will participate.

HRRC's Financial Fitness/ New Home Buyer Classes



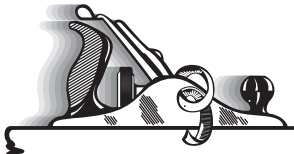
Home Repair Resource Center's interactive Financial Fitness series will help you develop your money skills, provide you with strategies for improving your credit, and teach you how to protect your home investment. Call **381-6100** for information or to reserve your spot in these FREE classes (all 6 - 8 p.m.):

September *Classes to be held at the CH-UH Main Library, 2345 Lee Road*

2	Thursday	Power of a Personal Buget
16	Thursday	Creditworthy Equals Choices
23	Thursday	Understanding Mortgages & Refinancing
30	Thursday	Avoiding Mortgage Delinquency

October *Classes to be held at the CH-UH Main Library, 2345 Lee Road*

6	Wednesday	Power of a Personal Budget
13	Wednesday	Creditworthy Equals Choices
20	Wednesday	Understanding Mortgages & Refinancing
27	Wednesday	Avoiding Mortgage Delinquency



Workshop Schedule

Our first group of Project Repair workshops this autumn will help homeowners prepare for the upcoming winter. We will then begin a series of classes on bathroom remodeling – although many of the topics can be used in other areas, as well.

All classses are open to Cleveland Heights residents, and payment of a modest **materials fee** is now required. *(See our website for details, or call us for more information.)* Don't forget that multi-class punch cards cannot be purchased at workshops held away from our Teaching Center; mail your payment or stop by our office before the night of the class.

September

Asphalt Driveway Sealing

Monday, Sept. 13th, 6:30 - 8:30 p.m.

Learn how to use cold patch, crack filler, and sealer to repair and seal a drive. *(This class will be messy – wear old clothes!)*

Caulking & Weatherization

Monday, Sept. 20th, 7 - 9 p.m.

Learn how to seal those cracks and gaps that let warm air escape and cold air enter. We'll demonstrate strategies for winterizing doors, making windows air-tight, and eliminating hidden heat leaks.

Insulating Your Home

Monday, Sept. 27th, 7 - 9 p.m.

You'll learn how to work with various types of insulation and where each is most appropriate, and which do-self projects can give your effective results.

October

Bathroom Planning

Monday, Oct. 11th, 7 - 9 p.m.

At this "lecture" class, we'll talk about bathroom layout, selecting materials and fixtures, and code requirements for

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plumbing and wiring, so that your new or remodeled bath will look and function as you want it to.

Wall Framing

Monday, Oct. 18th, 7 - 9 p.m.

If you'll be carving out a new bath from another room or moving a wall to expand an existing bath area, you'll need to construct new walls. Come learn the carpentry skills needed to assemble a new stud wall and secure it to floor and ceiling.

Bathroom Wiring

Monday, Oct. 25th, 7 - 9 p.m.

At this class, you'll learn to install some basic parts of any bathroom wiring system: GFCI's, switches, and a light fixture. *(Note: This class will not provide the same extensive training as our five-part electricity series, to be offered in January.)*

November

Installing an Exhaust Fan

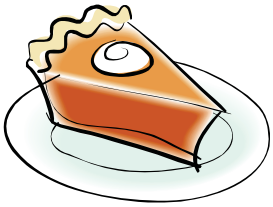
Monday, Nov. 1st, 7 - 9 p.m.

Learn how to install an exhaust fan in your bathroom – how to cut the opening, route the exhaust vent, and wire the circuit.

Installing and Plumbing a Bathtub

Monday, Nov. 8th, 7 - 9 p.m.

The most challenging part of a new bathroom can be replacing a bathtub. Learn how to break up an old tub and get it out, and how to install the new tub, with water supply and drain lines.



Drywall Installation

Monday, Nov. 15th, 7 - 9 p.m.

You'll learn to measure, cut, and install regular drywall, as well as the water-resistant "greenboard" and concrete backer board that are often used in moisture-filled bathroom areas.

Sheet Vinyl Flooring

Monday, Nov. 22nd, 7 - 9 p.m.

Learn to work with sheet vinyl – how to determine how much flooring you'll need, how to cut and lay it out for a smooth, tight fit, and how to avoid common installation mistakes.

Ceramic Tile

Monday, Nov. 29th, 7 - 9 p.m.

You'll learn how to lay out and space ceramic tiles on a bathroom floor or wall, how to cut pieces for edges or around fixtures, and how to maintain and repair a tiled surface.

information sessions presented by

Home Repair Resource Center

a community nonprofit organization

Choosing a New Heating System

Jim Ellia, Efficient Heating & Cooling

Learn what questions to ask a heating and cooling contractor when replacing your furnace or boiler: proper sizing, efficiency, features to look for, etc.

Wednesday, September 29th, 2010 - 7 pm

Remodeling Basements Defensively

Alex Pesta, City Architecture

If you are planning to finish your basement, learn what you can do to protect your wall and flooring materials from being damaged from water intrusion, mold, etc.

Wednesday, October 27th, 2010 - 7 pm

HOME REPAIR RESOURCE CENTER

these HouseMender University sessions will be held at

Cleveland Heights - University Heights Public Library

2345 Lee Road

Reservations requested –
call (216) 381-9560

Brick piers

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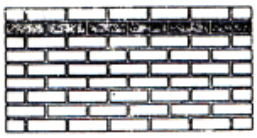
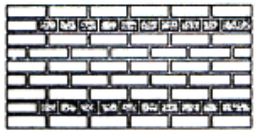
entire porch weight. So, most footers will need to be at least 10-12 inches thick; however, it is not unusual to need a footer 20 inches thick or so, depending on the combined weight it must support.

If you are installing a new pier and footer, you'll need a permit, and you should follow the required specifications for its construction. When the footer has set and you are ready to start the masonry part, you'll probably find either a "running bond" or a "common bond" the best pattern for building the pier. It's easiest to make your pier a size that takes advantage of full bricks, so you can avoid the slow process of cutting them to smaller dimensions. If you do need partial bricks, however, there are four ways to make them: cut them with a hammer and brick chisel; hit them with the pointed end of a mason's hammer; cut them with a circular saw and a masonry cut-off blade; or rent a brick saw.



Running Bond



Common Bond

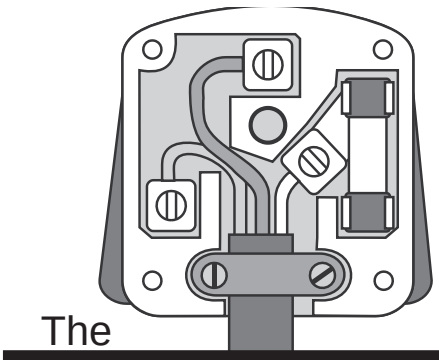
While mixing the mortar, soak the bricks thoroughly in water. Lay a bed of mortar on the footer to get started. Then, "butter" (coat) each end of the brick with mortar, push it gently into the bed on the footer, and tap it lightly into place with the handle of your trowel. After getting the first row straight, and checking it with a level, you can continue on up with the pier. As you build, pay close attention to both the horizontal level and the vertical (called "plumb.") Constantly check both directions with the level to ensure your pier is straight. Allow the completed pier to set and properly harden for several days before putting any weight on it.

These principles of basic masonry construction apply to whatever you are building, whether steps or piers. The quality of the work rests on its foundation.

Beware of "storm chasers"

If your roof or siding is damaged by wind, hail, or other natural phenomena, be careful whom you hire to repair your home. Many out-of-state contractors flock to areas where there has been a lot of storm damage. Some even arrange with local companies to use their name and phone number to "legitimize" their work.

Don't let anxiety lead you to make a poor decision. Be careful – take your time, get several estimates, and check references. Make sure you are dealing with a local company with a good reputation, one that will be around to fix any problems that might arise. Make sure they are licensed and bonded here in Cleveland Heights, and that they have both workers' compensation and liability insurance (ask to see current certificates). The contractor evaluations in our Library can help you find companies who do good quality work.



by Jim Kunselman

I've been spending some time this summer with folks that have gutter problems. The past winter was a banner season for ice dams. As a result, a lot of gutters were bent or damaged, and sometimes the entire fascia board and gutter system came down.

Most gutters in our area were installed using **spikes** (long nails) and **ferrules** (hollow tubes spanning the width of the gutter, through which the spikes pass). The spikes are generally spaced approximately 3 to 4 feet apart and are nailed into a fascia board that is only ¾" thick. (Many gutters are still installed using this system.) The problem with spikes is that they often back out of the fascia board, allowing the gutter to pull away from the house. So, with a heavy snowfall, the gutter may pull off the house entirely.

Using a **hidden hanger system** helps prevent this problem. The hangers hook under the front lip of the gutter and slip over the back gutter wall *(see illustrations)*. They are installed using screws that go into the wood 1-1/2 inches. Because the screw is driven home using a ¼" nut driver on a cordless drill, the gutter is also spared the hammer damage that can occur from driving in a spike. Screwing a hidden hanger into each rafter tail (generally 16" on center) will ensure that the gutter can resist the weight of water, snow and ice.

Gutter problems can also occur when rafter tails (ends) rot out. When that happens, the fascia board that is nailed to it is no longer held securely in place. The remedy is to "sister" a new piece of wood alongside the original rafter, so that the fascia board can be attached to sound wood at each and every rafter tail.

If you have to replace the entire gutter as a "do-self" project, stay away from the gutters found in most retail stores. The aluminum gutter sections available there are only .024 gauge (thinner than most seamless gutters), and are sold only in ten-foot lengths.

The fascia board itself also needs to be solid. If you have to replace a rotted fascia board, prime all sides of the board before you install it. It's best that you screw the new board in place, rather than nail it, to minimize pull-away.

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The Short Circuit

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Look at the size of your downspouts, too. In most cases, the usual 2 x 3-inch rectangular downspout is sufficient to carry water from your gutter to the storm sewers. However, if one downspout must transport a large amount of water or if it carries water from an area where several roof sections come together, consider installing 3 x 4-inch downspout. It will double the capacity for water to flow towards the storm sewer. This size downspout may not be available at a retail store, so you may need to go to a specialty shop to find it.

If you have to replace the entire gutter as a "do-self" project, I would suggest that you stay away from the gutters found in most retail stores. The aluminum gutter sections available there are only .024 gauge (thinner than most seamless gutters), and are sold only in ten-foot lengths. That means you will have more laps or joints with the potential to develop leaks. Nor should you use plastic gutters; these units simply do not do well with UV light and our wonderful Northeast Ohio winters.

Gutter problems can also occur when rafter tails (ends) rot out. When that happens, the fascia board that is nailed to it is no longer held securely in place. The remedy is to "sister" a new piece of wood alongside the original rafter, so that the fascia board can be attached to sound wood at each and every rafter tail.

Heavier-gauge gutters, as well as gutters in longer lengths, are available in specialty shops. These shops generally have equipment that rolls out as much gutter as you need. So, if you need a 26-foot length, they can make it. The hard part is transporting it home. In most shops .027 gauge is common; however, if you can find .032 gauge, it will withstand ice or ladder damage better.

The pitch (slope) of the gutter only needs to be 1/8" per foot to give a good flow to the downspout. You can tape a ¼" spacer taped onto one end of a two-foot level to give you the right amount of pitch towards the downspout. Then, be sure to caulk all the joints in the gutter to prevent leakage.

Finally, make sure that all the water carried by your gutters can flow freely away from your house. Check for leaves and other debris that may have clogged your downspouts, and snake any storm sewers blocked by roots that have grown into the pipes under the ground.

So, while the weather's still nice this fall, check out your gutter system. You can prevent a lot of problems later this winter by making sure your gutters and downspouts are in good condition. People don't believe me when I tell them, "98% of the time, the cause of a wet basement is a leaky gutter system."

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