

Hotel Room - Barn Doors DANGEROUS BY DESIGN Best Left on Barns

By Michael Panish
Expert Witness & Consultant



Barn doors may be best left on barns. I currently receive about a call a month to ask if I can help with a hotel room sliding barn door injury. This is a trend that has continued since hotel designers decided that it would be a great concept to install sliding type barn doors to separate bathrooms and other areas from the hotel guest bedroom.

The first time I saw a door of this type installed in a newly renovated hotel room, I immediately thought that this was an accident waiting to happen. It was either going to create a pinch injury, a crush incident, or the door would just fall off the hanging rail and smash into someone. I was more concerned that unattended children playing with these doors would get seriously injured.

Sure enough, within a month of seeing this kind of door installation, the calls started coming into the office. These calls have been ongoing for the last 4 years.

The peculiar aspect of these installations is that there are too many small hardware component pieces that can become loose and ultimately fall off causing detachment of the door. Various manufacturers use different types and qualities of materials to make the doors slide, however, most door systems are subject to the same problems. They loosen, fall apart, fall off of their track or move out of adjustment leading to serious personal injuries of hotel guests as the sliding doors disconnect from their hanging hardware in one way or another.

WHAT GOES WRONG?

Defectively operating hotel room barn doors have created injuries in many different ways. Hanger bars have become detached from the wall. Guide rollers and limiters have become disconnected. Screws have gone missing and were unchecked. Door hangers have lost their grip. Rollers have cracked and broken. Rubber stops have disappeared. The base plates and screws that keep the door from swinging away from the wall have broken or disconnected completely from the floor. Rust has affected the hardware due to moisture from the bathroom, and parts have seized. Glass doors have shattered due to stresses imparted as the door has been pushed into obstructions when they are out of alignment.

When depositions of hotel staff are taken and they are asked about how the barn door systems are maintained, the typical answer is “we don’t do much”. Sometimes they claim that they have boxes of replacement parts left from the original installation, and “when we notice something wrong, we go get one of those spare parts”. Many hotels claim that they make routine inspections of their guest rooms, but I haven’t encountered one hotel that pays the needed attention to these doors, even after an injury incident occurs.

In most hotels the housekeepers are charged with cleaning and preparing the rooms for new guests. Those housekeepers are the only check for room condition prior to a new occupancy. Housekeeping concerns are usually limited to quickly checking to see if the carpet is soiled, trash can liners are in place, the bed sheets are clean, and toiletries are in place in the bathroom. Housekeepers do not have the skill set, time in the room or training to evaluate loose hardware on sliding barn doors. Some managers have claimed that they inspect the rooms with other hotel personnel on a routine scheduled cycle, but their inspections are often too far apart. Quarterly or even monthly room checks are inadequate to counteract the daily changes that occur with the hardware on most barn style doors. I have never seen any information regarding specific barn door hardware inspections. In general, life safety and room security are the extent of any door inspections, if those issues are even evaluated.

WHAT KIND OF PARTS ARE ON A SLIDING BARN DOOR?

Installations and hardware of these barn door systems often include up to 30 separate components. There are bracket hangers that are attached to the top of some type of a slab door. Doors can weigh over 200 pounds depending upon the door width, thickness, and height. The door hangers are attached to a roller of some sort. These rollers can be made from steel, rubber, plastic or aluminum. Glass doors are hung using slots or holes that have been precut in the glass prior to tempering. Glass doors have hardware that must be gasketed with rubber or plastic to keep metal components from making contact with the glass directly. All doors using rollers are held in place with an axel or screws. Next, the rod or bar stock that these rollers move on must be properly attached to the wall.

To ensure that the carrier rods or bars are safely mounted, there must be steel backing plates or wooden blocking in the appropriate location of the adjacent wall. Sometimes, a renovation of the room has not included these backing materials, and the hanging rods are founded into drywall alone. The brackets that mount these rods or brackets have to be positively located into some formidable blocking materials, and appropriately mounted using proper screws designed to maintain the weight of the door and sliding systems. Deformation of the finished drywall surface, due to the weight of improperly designed systems, has created looseness of the hanging tracks, and ultimately led to barn door failures.

Many barn door carriers have only a top roller and rely upon a bar or piece of metal to keep the door from lifting off the hanging track. Some more sophisticated systems may have both a top and bottom roller to limit the movement of the door when the door is inadvertently pushed up by usage. Most wooden or metal barn door hardware sets require a slot cut into the bottom of the door so that a flat plate, screw or t shaped piece of metal can keep the door from swinging diagonally away from the opening when used. Glass barn doors often have L shaped floor guides to direct the travel of the sliding door. Not every barn door system has this bottom piece of hardware and some are very weak.

In addition to these basic components, there are also additional stop pieces, limiters, snubbers and other regulating pieces that maintain the door on the hanging rod or bar stock, depending upon the system, manufacturer, and design of the door hardware. Some barn doors are basically glass sheets. These doors are usually tempered or made of laminated safety glass. Moving doors made of glass can spontaneously shatter due to stresses imparted to the glass as early as when manufactured. Glass doors used for these barn door installations are like all other glass doors. They can be affected by previous use, impact from vacuums or other normal operational conditions. Sometimes holes or slots prepared in the glass that are used to hang the doors

become stressed and the door shatters without warning. Using a sliding glass door comes with increased risk of failure as it is a moving piece of glass. Glass is generally not as resilient to stresses as a solid wood or a metal door and adds to the possibility of injury.

Add to all these various components, numerous screws to attach these parts. Often, the screws are designed to have some sort of proprietary wrench or driver. It has been seen repeatedly that the hotel maintenance staff does not have possession of these proprietary adjusting tools. Sometimes the screws have simple slotted heads or allen screws, but they all require positive torqueing in order to assure that the screws will not loosen in usage. It is good trade practice to bind these screws either with a chemical thread locking agent or by deforming the screw threads to guard against loosening. That extra measure of security is rarely observed when defectively operating barn door hardware has been inspected.

My construction company has built hotel rooms for many major hotel chains since the early 1980's. New designs and ideas were generally tried out and refined in several design stages and reviews before actually being constructed and put into public use. First, the hotel designers would configure the rooms for function. They would conceptually design most of the elements for a new project. After review by different design departments with operations and management commentary, my company would be called upon to build a model room to full scale in a warehouse. The rooms, all components, including doors, hardware, plumbing fixtures, lighting, furniture and finishes would all be scrutinized during these model room mock-ups. Construction spatial conflicts, operational concerns, maintenance of products, sampling of finishes would all be photographed and checked and rechecked prior to offering a new concept to a hotel in need of refurbishment. That is the responsible way that a professional hotel group reworks their projects.

POOR DESIGN CHOICE

It appears that recent design choices, such as the sliding barn door did not undergo the same design gauntlet that has been the standard in prior years. In the effort to find a cool new look to appeal to the current marketplace as to how to configure guest rooms, and with a goal of increasing useable room square footage, the poor design choice to use sliding barn style doors has become commonplace. If the amount of injury claims I am aware of is indicative of a small portion of all sliding door injuries, this type of door installation is a poor and predictable design failure. Sliding barn doors appears to be leading the hotel industry as a major contributor of unsafe room conditions.

From the hotel perspective, many chains require that a design format is followed whenever a renovation is undertaken. That means that if the hotel chain design requires installation of these barn doors, they are generally incorporated in a renovation project without question. The contractors that are installing these products are often doing so without any past expertise or forethought as to how to properly install this hardware.

From my inspections of dozens of defective barn door installations in hotel rooms where personal injuries or wrongful death has occurred, many products have exhibited observable damage to the screw heads, rollers and various components that were made during the original installation or through improper maintenance and repairs.

When the renovated rooms have been turned over to the local hotel management at the end of a construction project it is typical to receive product instructions and suggested maintenance routines for equipment. I have not been shown any documentation that describes how the hotel staff is supposed to care for these doors. Training, maintenance protocols or any basic instructional materials that provide any information or warning that the hardware will become loose with use, wear, rust or break down in a short period of time is non-existent. This seems to be evidence that there was little thought given to the ongoing use and long-term functions of these door systems.

Designers do not always get it right. That is why major hotel chains used to review proposed changes for renovations and new designs for an extended period of time prior to putting new ideas into hotel guestrooms. In the case of sliding barn doors, designers have made an extremely poor choice regarding the safety of the hotel guests. These doors require continual observation and constant attention to ensure secure fittings. Without a diligent inspection routine performed on a daily basis, and every time the room is turned over, there is no way to know if all the hardware is properly attached and secure.

HOTEL ROOMS ARE NOT BARNES

Sliding barn doors have been appropriate for barns for hundreds of years. Hotel rooms are not barns. This recent design trend has not taken enough consideration of the different occupants using these rooms. It has not addressed the continual requirements for observation and maintenance or considered the inherent danger with the door configuration. Children are often injured when they are leaning on an adjacent wall space and the door slides open in their direction. Guests that attempt to access these sliding barn doors in the middle of the night, not realizing that the door slides left to right, have pushed or pulled upon them, as if they were a ubiquitous hinged door. These late-night encounters have resulted in many injury claims where the sliding door has ended up on top of the groggy hotel guest. Sliding barn doors are simply a bad design element in today's attempt to provide a trendy design for guests. Lack of training, appropriate maintenance or understanding that continuous observations need to be made on the part of the hotel management is an ongoing problem with regard to these sliding door systems. If hotels had opted for old fashioned pocket doors installed between walls, instead of this current trend to surface mount barn doors now being installed, there would be significantly less injuries to unsuspecting guests today.

For additional information or help with a barn door related injury claim or any door or door hardware related claim, contact Sharon at 888 902-4272 and visit www.ConstructionWitness.com. Mike Panish has been retained on over 1600 cases since the year 2000. He specializes in all types of door related personal injury, wrongful death, and door defect claims and can assist you immediately with your case.