



**Brass Rail Duplication Services  
at Schaff Piano Supply Company**

**by Chuck Behm**

Article Courtesy of Schaff Piano Supply Company

# Brass Rail Duplication at Schaff Piano Supply Company

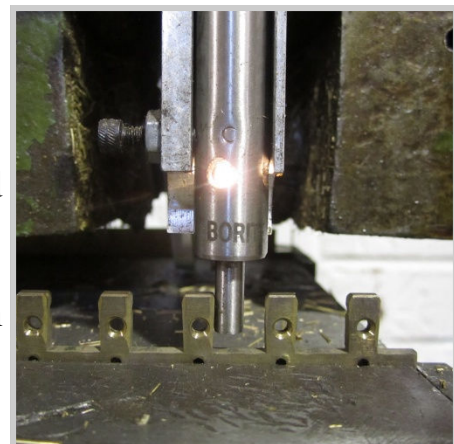


*Frank Pinn*

Brass rail production at Schaff Piano Supply Company is in the capable hands of long-time employee, Frank Pinn. Frank, an avid hunter and NASCAR fan in his off-hours, is one of several parts and tools experts at Schaff. If Schaff Piano Supply carries a tool or piano part in its inventory, Frank knows all about it and will gladly share his knowledge with you.

One of Frank's many duties at Schaff is to see personally to the duty of worn out brass rails that are sent in for replication. This is a very hands-on process, requiring an expertise at using a specialized machine that is dedicated to the production of brass rails and is used for nothing else.

The effort to provide this valuable duplication service exemplifies Schaff Piano's commitment to being the "House Dedicated to Service."



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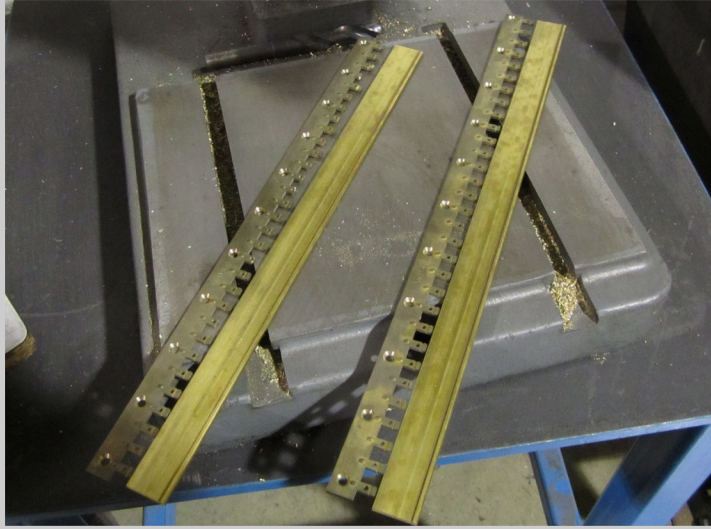


The fact that a machine used for duplicating brass rails still exists and is in good working order is due to the steadfast desire of the decision-makers at Schaff to be able to fulfill the needs of the technician who in turn wants to provide his or her customer with the best possible service. Being able to take a vintage upright piano with faulty brass rails and bring it back up to spec with an entirely new set of rails makes the technician look good in the eyes of the customer. That, in a nutshell, is what makes this service important to Schaff.

Schaff purchased the brass rail duplicator in 1973 from what was then Cornwall & Patterson in Bridgeport, Connecticut. Cornwall & Patterson manufactured a variety of piano parts including all the types of brass rail repair flanges, center pins and so forth. The machine spent a few years at Standard Piano Hammer Company in Des Plaines, Illinois before it was moved to Schaff's new location in Lake Zurich in the early 1980's. At that time Schaff's warehouse manager Jack Raine was in charge of duplicating the rails sent in. A few years later Frank inherited the job which he's had now for about 25 years.

Frank's best guess of the age of the machine, going on clues having to do with its construction, would be right around the century mark.

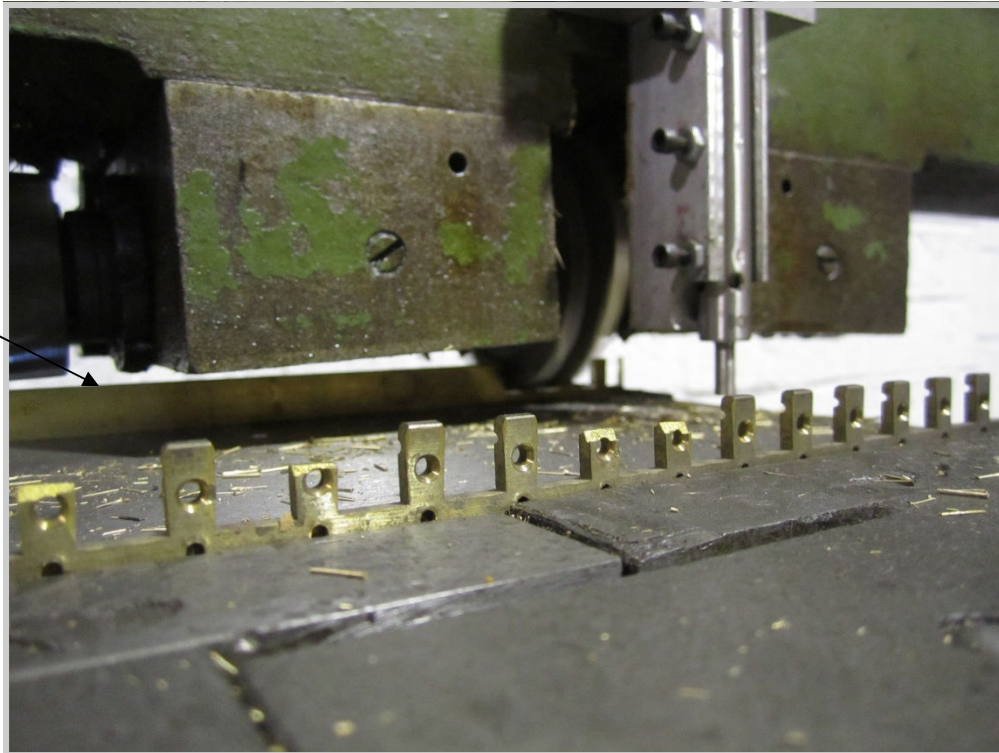
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The production of a new set of brass rails begins with the cutting of sections of brass stock to length. This brass is custom made for Schaff by a Canadian company and is purchased in 12' lengths. It comes with a v-channel running the length of it where the center pin will be held in place by the tongue and the butt plate.

*New sections of brass stock side-by-side with old rails.*

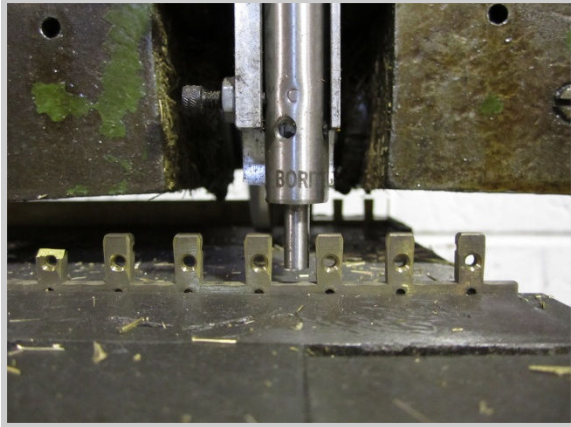
New brass stock  
in back of machine.



To begin the cutting process, an old rail is clamped into place at the front of the duplicator, with a new section of brass stock secured in the machine at the back. A double set of cutters at the back cut out tongues one at a time in the precise location along the rail as the original tongues on the rail being duplicated.

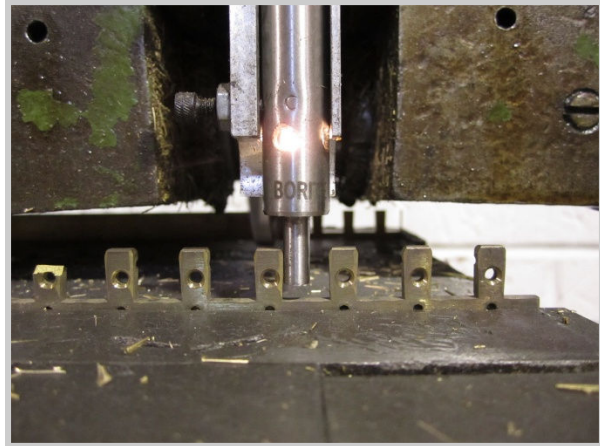
The bed that the rail and brass stock are clamped into is adjustable from side to side, and from front to back, but not up and down. The cutting blades do not move—the brass is moved to bring it into position for each cut to be made.

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A stout feeler gauge is used for the exact side-to-side location of each tongue. The bed is first moved so that the gauge is in between two tongues.

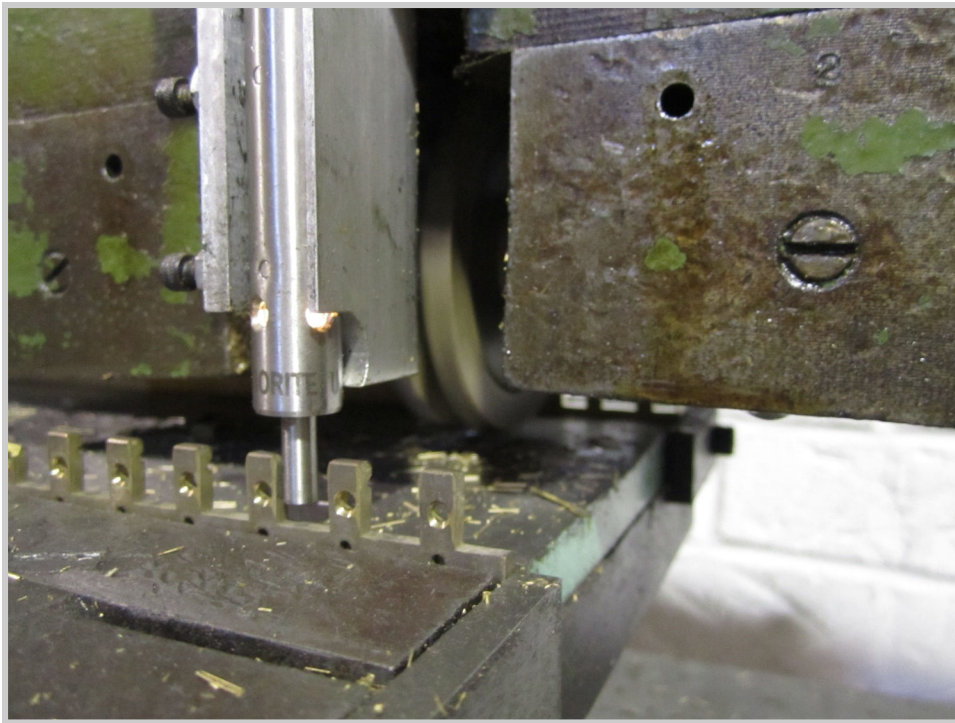
The bed is then inched to the side until the feeler gauge makes contact with the tongue to the left. The light signals that positive contact has been made.



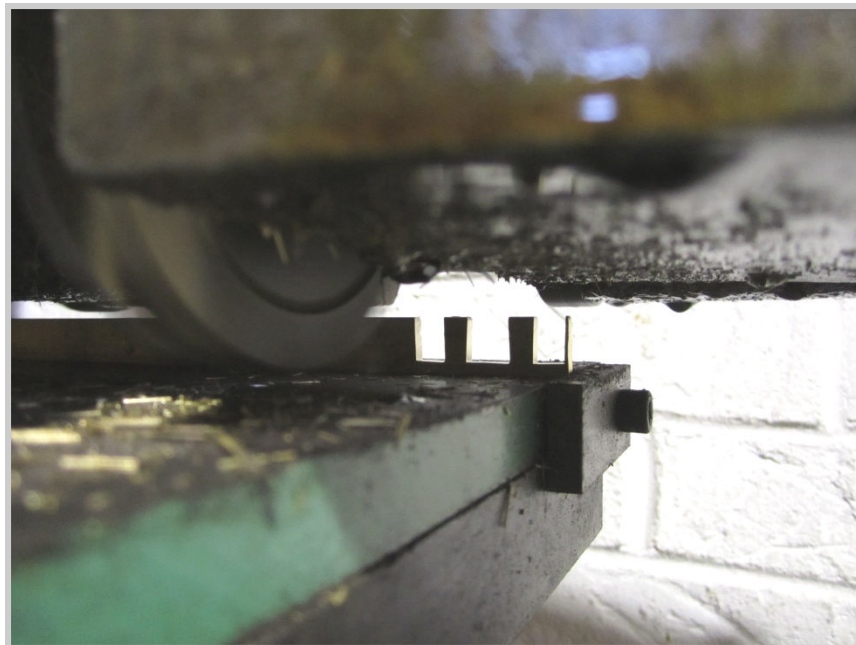
Side-to-side control wheel.

Front-to-back control wheel.

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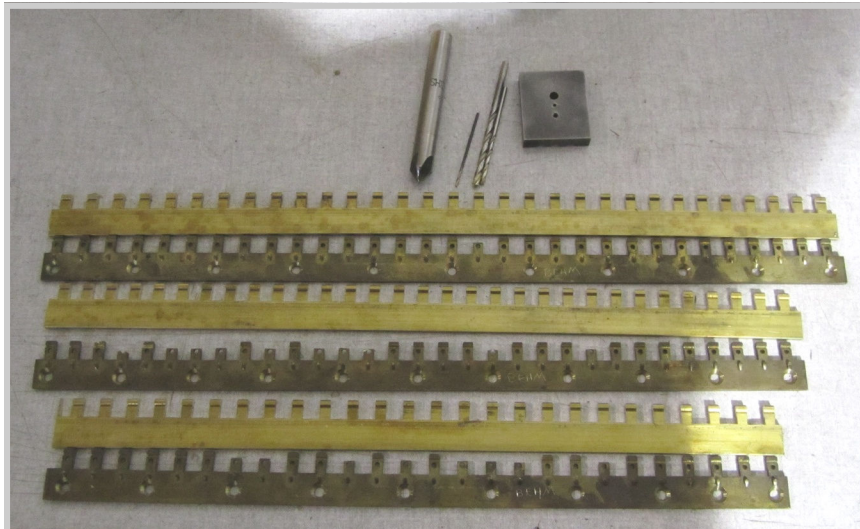


Once the position of the tongue is made, the bed is brought forward so that the tongue is cut with the double blade.



*The new profile begins to take shape as each tongue is cut.*

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Once the initial profile has been cut into the brass stock, the material begins to take on the appearance of brass rails. The next step is to drill the holes for the butt plate screws, the butt plate alignment pins, and the screws attaching the brass rails to the action rail.

The drill bits and drilling guide necessary for finishing up the rails are shown in the photo to the right. The underside of the guide is shown here. The two partitions form a slot which fits over each tongue to precisely center the location of the hole for the butt plate screw and the butt plate alignment pin. The larger drill bit and the counter-sink are for the holes to attach the brass rail to the action.



The drilling guide fits precisely over the brass stock to provide drilling locations. Once a hole is drilled, the guide is lifted slightly and slid over to the next tongue. The partitions of the slot and the top and bottom guides give exact positioning.

In this photo, the v-channel pre-formed at the top of tongues may be seen more closely.

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Here, Frank uses the larger drill bit to drill one of the holes for the screws which will attach the brass rails to the hammer butt rail of the action. The rail is placed on a wooden backer board, so that the drill emerges from the brass without any tear-out.

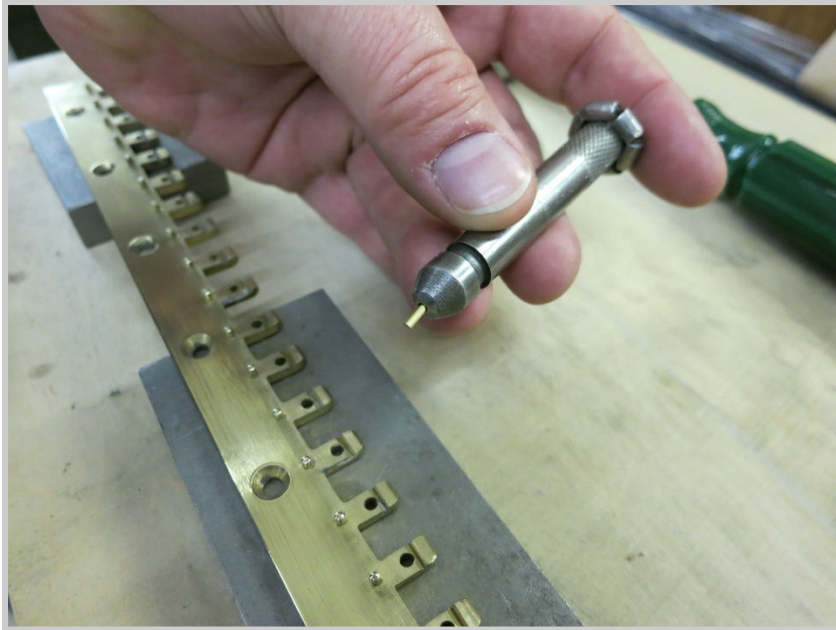
The countersink used to finish off the screw-holes came with the machine, and is believed to be as old as the machine itself.



The tools and supplies needed for the final step of the job—the insertion of the butt plate alignment pins.



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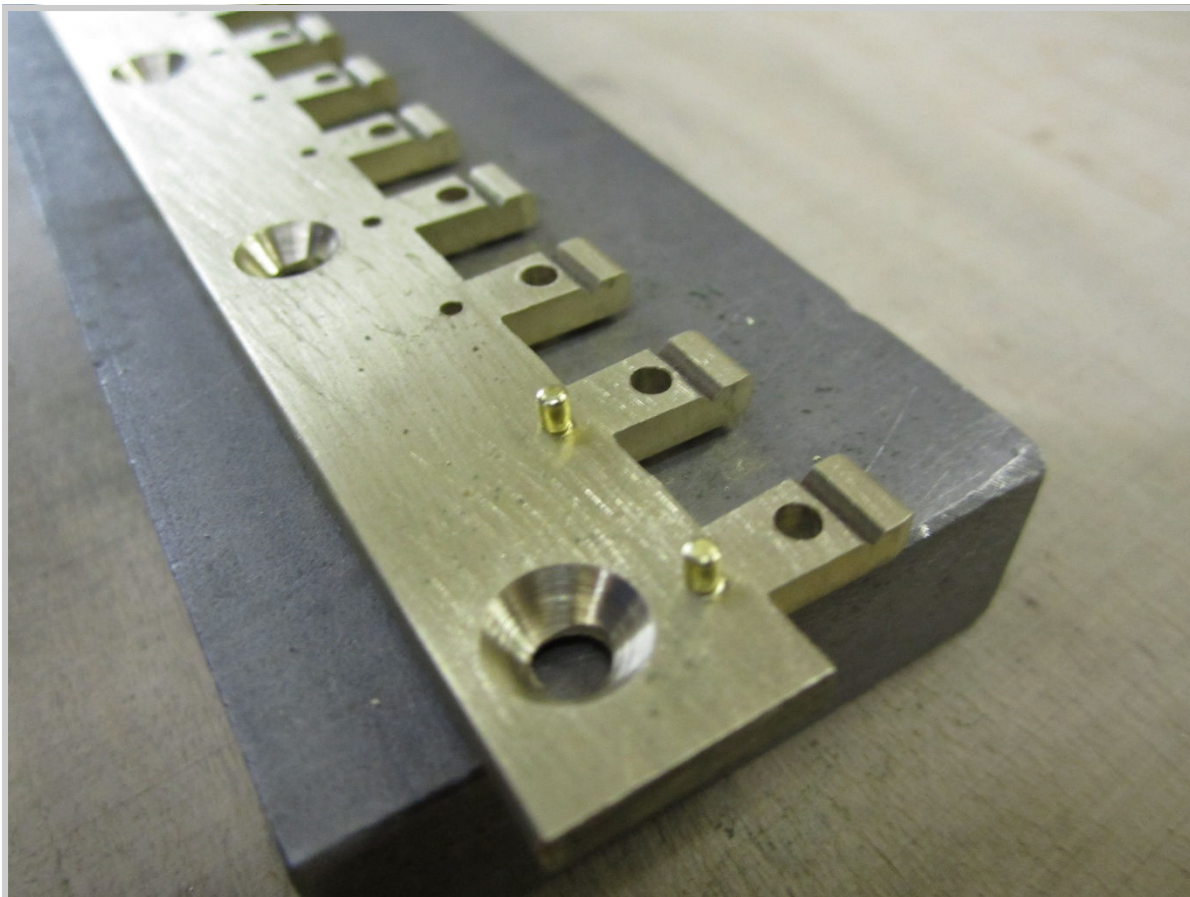


A butt plate alignment pin in the punch used to pound it into place—somewhat like a riveting tool in concept.



With the alignment pin centered on the hole, the pin is pounded in to a set depth. The mushrooming of the top of the tool attests to the years of service that the punch has provided!

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**The nearly finished product—beautiful!**

From start to finish, every rail produced receives Frank Pinn's undivided attention to ensure that it is an exact match of the original rail. By having one person with a high degree of expertise in charge of the process for so many years, the chances for error in the production process are virtually eliminated.

Having personally installed these rails in pianos myself a number of times of the course of my career, I can attest personally to the quality of the product, and to the huge difference it makes in the pianos in which they are installed.

Because of this and so many other services they provide, Schaff Piano Supply Company truly is the "House Dedicated to Service." I am grateful to the many professionals at Schaff for the manner in which they back me up as a technician so that I can provide the best service for my own customers.

Chuck Behm