

INSTALLING CHAIR LEG INSULATORS

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CHAIR LEG INSULATORS (HOW TO “INSULATE” A CHAIR)

Many decades ago, I observed glass Telegraph insulators screwed onto the bottoms of the legs of the Telegraph Operators chairs on the Norfolk & Western Railway. Ever since, I have wanted a chair with insulators on the legs for use in my own Telegraph Office. Recently I did the deed. This little paper describes the process and the things I learned... and the mistakes I made.

TOOLS: To do this job, one needs a sharp 1/2” or 3/4” *chisel*, and the ability to re-sharpen it mid-process. I chose a small *hammer*, 12 ounces. A sharp *wood rasp* (pictured below) is necessary to clean up the chisel cuts and round and taper the legs. A *coping saw* will make the work go faster. Finally, a *strap clamp* is helpful to support the leg being chiseled and keep shock and vibration from breaking down the chair’s glue joints.





This is a strap clamp. It is made for holding all four corners of a four-cornered object in place during gluing. For the present purposes, its function is to hold in a relatively stable position the one leg which is being chiseled, and to prevent the hammering shocks from breaking down the glue joints of the chair.

The chair I chose to equip with insulators is an oak chair which came from “UD” Telegraph Office, the Wire Chief’s Office in the Harrisburg, Pa. station of the Pennsylvania Railroad. It was probably acquired by the Railroad in 1937 or 1938, when the Wire Chief’s new office was built. After UD closed, I moved the chair to an office I used occasionally in the Enola Yard Brick Office. When that structure was closed and demolished, about 1997, I brought the chair home. In chiseling on the legs, I found that the wood is dry, hard and brittle.

Lacking a workbench large enough to hold a chair, I worked in the back yard and turned the chair upside down, and rested it on another chair. The legs I then tied together with the strap clamp.

Mistake #1 was to begin the work on the front legs. I should have begun on the back legs, where mistakes made in learning would not show so obviously.

Mistake #2. I began the work by measuring the depth of the pin hole in an insulator (3 3/4"), subtracting 1/2" from that number, and beginning my cutting 3 1/4" up on the chair leg. I later found that this was far too high up on the chair leg. To exacerbate my error, I marked scored all around the chair leg at this dimension with a chisel, to provide a relief cut in case something splintered. At this point, I was committed to removing material 3 1/4" up the chair leg, which was much more than needed. The result is that all four legs have a "boxy cut" that does not fit down into the insulators and looks bad.

The next step was to begin the removal of wood with the chisel. With the chair sitting upside down, I chiseled *upwardly*, to keep from making splits in the wood which would rise into the chair leg, toward the seat. Chiseling and test fitting the insulator on, it took almost 3 hours to trim the first leg down to proper size. I cleaned up the chisel cuts with a wood rasp.

On the second leg, I decided to save some chisel work and remove a substantial amount of wood with the coping saw. This was a good move, as my hands were already sore, and it saved substantial time. The second leg was trimmed down with saw, chisel and wood rasp in less than two hours.

By the third and fourth legs, my technique had improved, and those were cut down in a bit more than an hour each.

Mistake #3 was that I removed too much wood from one of the legs, and the insulator fit loosely. This situation I fixed by filling the top of the pin hole with clear vinyl caulk to take up the extra space and serve as a cushion. That worked so well that I used a small amount of the clear vinyl caulk on all of the legs, to prevent movement of the insulators on the shaved down wood.

The final step was to make the final fitting of the insulators on the chair legs. For this, I used a level concrete floor, squirted some clear vinyl caulk into the threads, and adjusted the insulators on the legs until the chair sat squarely, without wobbling. I allowed the caulk to cure for 48 hours before sitting in the chair.





SOME FINAL THOUGHTS

1.) I built my Telegraph table to standard Western Union height, 32", but the chair was always a bit too low for comfortable telegraph work. The leg insulators boost the chair almost 2" higher, which was a welcomed.

2.) "Urban myth" has it that glass insulators were installed on Telegrapher's chairs to "insulate the Telegrapher against lightening." Nothing could be further from the truth. They were installed to make the chairs slide more easily across the rough wooden floors in old railroad offices.

3.) No prize insulators were sacrificed for this endeavor ! The insulators on the two front legs are common CD-145 Brookfield "B" Beehives. The two on the rear legs are common CD-147 "spiral groove" insulators designed and patented in 1907 by Charles Barclay, Chief Engineer of the Western Union Telegraph Company.

So now I telegraph on Bunnell instruments and I slide about on Brookfield glass – the best of both worlds. Life could not be better...

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