Goodell Pratt Eggbeater Drill

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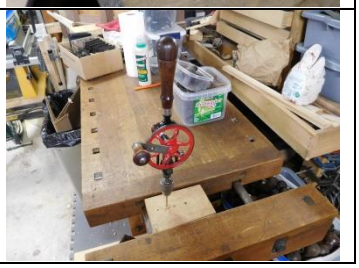
Cordless drills have been popular for a long time. Of course, the originals were powered by the user. Today, these eggbeater drills are popular among old tool collectors. They are found in various states of repair and sometimes need a tune up. That was the case of the Goodell Pratt drill that serves as eye candy in my shop.

These tools are complicated machinery and often need cleaning and minor adjustments to keep in their top working form. Often a damage part will render the tool useless. They were made to be user serviceable and simple repairs are often very easy to do. When I inspected this drill, it was hard to turn and the chuck was sluggish. The three leaflets did not move in unison and even required some coaxing to move at all. I began by adding oil to the oil holes to lubricate the bearings.

The patent date on the hand crank is “March 31, 1896”. It is in very good condition for its age. The handle is rosewood with a screw off cap for drill bit storage. The paint is in good and original condition. Most of the plating is intact and in good condition.	
Here is a picture of the reverse side. The drill has oil cups for lubrication. Once oiled, all parts move quite freely.	
It has a transmission of sorts with two gear settings for increasing torque.	
The chuck is patented “August xx xxxx”. It works but needs attention because it is sluggish.	
When the chuck is unscrewed from the body, two holes are revealed. A spanner wrench is required for disassembly. Unfortunately, my spanner pins are too large. I could file them down but that will take time. I think it is time to make a servicing tool.	
My servicing tool starts with a walnut scrap from the cut off bin. I marked the chuck holes with a trammel set and transferred those marks to the piece of walnut. Then I drilled two pilot holes and drove in two #6 common nails. I cut the heads off so that about ¼ of the nails projected.	

As you can see, the newly made service tool fits perfectly.	
I applied Liquid Wrench to the outside and inside threads and let it soak for a day. Then I clamped the chuck in a vise while using a shoprag to prevent scarring from the metal jaws. The cutoff was about sixteen inches long and provided such great leverage that the chuck opened immediately after a stout tug.	
Here are the goodies from inside. There are three leaflets that look like heart valve leaflets which are held together by small springs. These leaflets are hardened steel and grip the bit when they are tightened. The springs help them stay together and act in unison.	
As you can see, one of the springs is stretched and bent out of shape. Accumulated dirt and/or rust in the bell housing can prevent the leaflets from moving together. Continued tightening can cause damage to one or more of the springs.	
The chuck consists of several components. This is an inside view of the bell housing. Over time, it gets dirty and the leaflets cannot move freely. I cleaned out the inside of the bell housing and used fine sandpaper to remove a rust spot near the apex.	
I did not have any replacement springs, so I elected to repair the stretched spring by wrapping it around a nail.	

I used needle nose pliers to coax the spring back to its glory days. It got real close.	
Here are the chuck components. When assembled, the leaflets are joined by springs and reside inside the bell housing, resting on a floating base. The floating base sits on the housing floor, which is screwed into the bell housing using the spanner service tool. As the chuck is screwed down the drill post, this whole assembly moves and the floating base advances inside the bell housing. The floating floor and the springs work together to keep the leaflets moving in unison. It is easy to see how this mechanism can be adversely affected by dirt and rust.	
The three leaflet assembly with springs.	
The leaflet assembly is inside the bell housing and the floating base is in the floor. Putting them together requires a steady hand to keep the leaflets in place while keeping the floating floor inside the base.	
Luckily, we have the service tool to snug everything in place.	
Here is the money shot which shows the leaflets advancing in unison.	

Drill bit held tightly by chuck leaflets.	
Random holes were pecked into some scrap.	
Here is the drill in action. Indeed, cordless is the way to go!	

Don’t be afraid to service your vintage tools.