Norman Baker's Invention “The Tangley Calliaphone”

Part I

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One of the results of our favorite obsession is the desire to collect an example of each variety of mechanical music machines to satisfy the desire. Working on the Hersheypark Carrousel in the 1950s was the origin of this obsession for me. However, it wasn't till the 1970s that I was able to actually afford to buy instruments. I saw an article in the paper about a gentleman, Curtis Lawyer (now deceased) who owned a band organ. He gave me a copy of G.W. MacKinnon's catalog. An amazing listing of a variety of music machines which looked like a ticket to heaven—for a price of course. The prices looked high in those days. Later, these prices looked like real bargains as collectors bought machines and prices went up.

Figure 1. Front view of unrestored calliope.

There was also a local fellow, John Lower, who had a Tangley Calliope mounted on a small truck. It was decorated with a circus theme. John was a circus buff and a skilled builder of miniature circus models. His interest in the circus brought him into contact with many circus shows at which he entertained the circus patrons with calliope music. At that time, the calliope would operate from the music roll. Later, the roll system became inoperative and an elderly woman played the machine from the keyboard. As John grew older, the machine was no longer taken out for display and it sat in the truck for quite a few years. Over this time when we happened to meet each other, we discussed the possibility of the purchase of the calliope. Around 1999 the deal was struck. Mike Kitner and I removed the machine from the truck and I took it home (**Figures 1, 2 & 3**). Through the years, the side of the truck had deteriorated and the interior of the truck was exposed to the weather. Amazingly, the calliope itself showed no signs of weather damage. As the truck was stored outside, when winter arrived, all sorts of critters begin to look for winter quarters. This search is very persistent and a calliope apparently looked like a very nice place to call home, if you happen to be the correct size (critter). In **Figure 4**, we have removed the lower portion of the back of the calliope. Here we find the calling cards of former residents, an assortment of nutshells, leaves, twigs and debris. I have scrapped this stuff out of the space between the back and the pressure tank. You can see this material lying on the floor.

Figure 2. Unrestored keyboard.

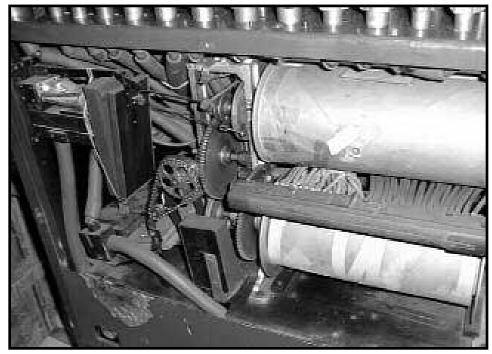

Figure 3. Back view of unrestored calliope.

Figure 4. Debris accumulated over the years.

The cabinet is basically divided into two parts, the lower part of the cabinet housing the pressure reservoir tank and the upper part housing the roll frame, air motor, stack, wind chest, hoses and associated control mechanisms. The roll frame is powered by the type of air motor common to ordinary player pianos using a rather lightweight roll frame. You might think that the rather heavy duty roll frame in the calliope would be asking a lot of the air motor. But, it works very well in this application.

The Tangley plays a 10-tune type A piano roll. The “A” roll was commonly used in coin operated “A” roll pianos. The “A” roll has 65 holes, not all of which control playing notes. There are 58 holes controlling the playing notes, holes number 4 to number 61, and several control holes. The piano uses a hole in the music roll to control the sustaining pedal on the piano. The arrangements on the piano roll take this into consideration. The calliope has no means to use the sustaining effect programmed on the piano roll. The lack of this sometimes has the effect of sounding like the note has been shut off too soon. In order to correct this problem, the Clark Orchestra Roll Company produced a series of "A" rolls which were designed to play on the Tangley. When a note was to be sustained a bit, the length of the perforation on the music roll was slightly extended. Now, the music roll had 58 playing notes but the calliope only has 43 playing notes. To adjust to this, the top two playing notes on the calliope are not played automatically. This leaves 41 notes available for automatic playing on the machine from the 58 playing notes on the music roll. This problem is solved by octave coupling of some of the bass notes on the tracker bar.

This machine has seen a lot of use and the keyboard has some severe wear. As the keys are connected to the pneumatic stack, when the machine is playing from the music roll, the keys are also moving up and down. At some point, the keys were recovered with Formica, some of which is falling off (**Figure 5**).

Figure 5. Formica key coverings from previous repair.

Having examined the various components of the machine we begin to take it apart, taking photos and notes as we go in case memory fails when we put it back together. The brass pipe work is removed by unscrewing each pipe and packing them up to be stored in a safe place till we need them.

Figure 6 shows the parts as viewed from the back of the machine and looks like a good place to start. We can see the roll frame, vacuum air motor and the rewind pneumatic assembly. The roll frame is easily removed by disconnecting the tubing, chain connection to the air motor and several screws. Having removed these components we can now see the backs of the keyboard, wind chest and the pneumatic stack (**Figure 7**). Most of the hoses from the wind chest to the pipe work have been removed. The mechanism visible in the upper left portion of Figure 7 is the vacuum cutout mechanism, which disconnects the vacuum from the stack when the machine enters the rewind mode. This keeps the roll from playing during the rewind phase. While the Wurlitzer design relies on a mechanical arrangement to shift from rewind to play, the Tangley design relies on a vacuum signal to accomplish this shift by means of a hole in the music roll to trigger a valve. The two large hoses are the feeder hoses from the air pressure tank to the wind chest.

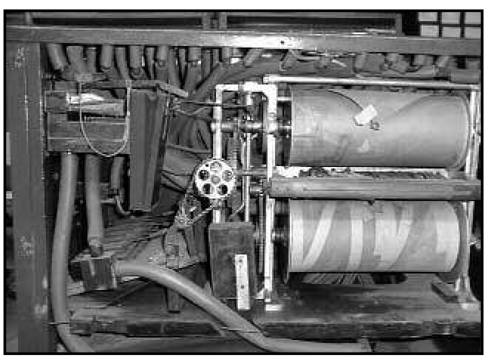

Figure 6. Back view of unrestored roll frame and controls.

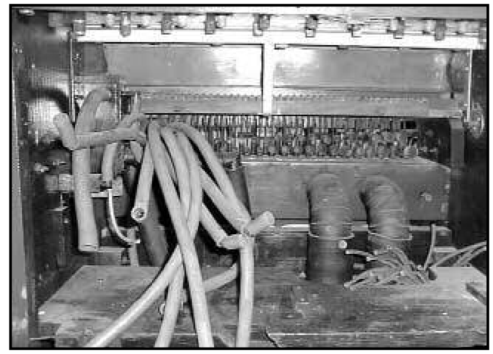

Figure 7. Roll frame removed.

The Tangley design features an angle iron framework for the case. Wooden strips are screwed to these angle irons to provide a means of mounting some bracing for the sides. The sides of the case are made of wood fastened to this angle iron frame. The wooden side is covered with sheet metal, which is the outer covering for the case.

In Figure 7, note that the shelf supporting the roll frame and air motor is still in the machine. **Figure 8** shows a slider type valve which serves to control the amount of vacuum that is supplied to the air motor. By decreasing the vacuum to the motor, it runs slower and causes the roll frame speed to decrease. There is a small lever that can be moved back and forth in a slot in the shelf. This lever protrudes slightly through the shelf and is located under the take-up spool on the roll frame. This lever can be moved with your fingers and thus adjusts the speed at which the music roll travels over the tracker bar.

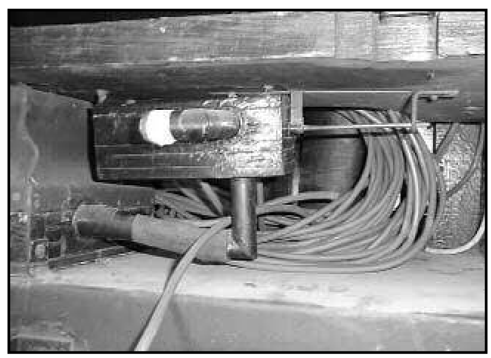

Figure 8. Unrestored vacuum valve to control the roll frame speed.

On the top of the machine, each pipe is mounted on a threaded insert, which is soldered into a hole in the top. These threaded inserts vary in size according to the size of the brass pipe screwed into the top of the insert. The inserts are carefully checked to be sure that none are loose. Later we will strip the paint from the top and repaint it. We want to be sure we don't have to go back and re-solder any of these inserts after the new paint is applied. They can be broken loose if excessive force is applied to them. Some of the longer pipes can exert enough leverage on the solder joint to break it loose if the machine gets rough handling. The previous owner built a special cabinet to store the pipe work when traveling to a show for this reason. The larger pipes have enough weight to break this joint if the truck has a bumpy ride to the show and they are rocked back and forth.

The Tangley has some interesting and nice aspects to the design and also has some rather rough areas too. Particularly of interest is the method of mounting the wind chest in the machine. A large square hole is cut into the wooden sides of the case and the wind chest rests in these holes. On each end of the wind chest is a metal mounting bracket that is screwed into a wooden strip attached to the angle iron side of the frame. This provides a sturdy attachment to the frame. However, the wind chest is a rather loose fit in the holes in the wooden sides. Small wooden wedges were used to force a tighter fit to the wind chest in the square hole. I assume that is the original method of mounting the wind chest. These wedges have small nails in them to be sure they don't fall out of place. Since these wooden sides were covered by sheet metal, top grade lumber was not used for these sides. Later on we will see another use of wedges to mount and stabilize the pressure tank. This arrangement is not too pretty, but I guess I should not criticize it since it appears to have worked in these machines.

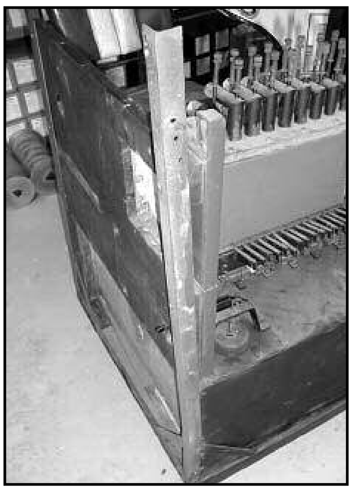

Figure 9. Bent angle iron frame member.

Continuing the disassembly, as I began to remove the screws that hold the wooden sides to the angle iron frame, I was shocked to see the one side of the angle iron spring out at the top. It was displaced outward over an inch at the top. Closer examination shows a kink in the angle iron about a quarter of the way up from the bottom. Apparently at some time, the machine was dropped over on the side or something gave it a pretty good whack. This blow was enough to bend the frame, but the wooden sides and all the other attachments to the sides held the machine in the proper shape, but the frame, I imagine, was under stress for a long time. **Figure 9** shows this bent out angle iron.

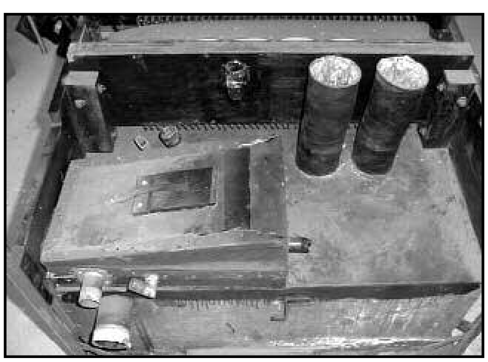

Figure 10. Unrestored vacuum reservoir.

In **Figure 10** we have removed the shelf which holds the roll frame and the air motor. The vacuum reservoir is located under this shelf and is mounted on top of the pressure reservoir. The large pipe in the lower left corner is the inlet for pressure from the blower. The two large vertical pipes on the right side are the pressure feeds from the top of the pressure tank to the wind chest. In the bottom of the picture we can see another instance where wedges were employed as a means to mount and retain the pressure tank in the angle iron frame. Two wedges are used and tapped into place to wedge the tank in place. Then a screw is inserted through the angle iron frame into the wedges, which locks them in place. This wedging technique is also used on the sides of the tank. The angle iron frame is welded together and the pressure tank is fabricated from sheet metal and soldered together. The tank also has reinforcing struts soldered inside to enhance the stability of the tank when it is under pressure.

Figure 11. Restored pressure tank and case frame.

The pressure tank was removed from the frame and placed on sawhorses. Several coats of paint have been removed from the outside of the tank. In the upper right side you can see the repaired bolts. For many years, the original Roots blower was used to supply pressure and vacuum for the calliope. The blower tends to produce a fine oil mist as a byproduct of its operation. So, over the years this had caused an accumulation of a ¼" thick coating of goo in the bottom of the tank. We took the tank to a steam cleaning company to have this material removed. Unfortunately, they did not have a wand to get the steam over the entire inside. The part you could see through the hole where the relief valve was removed looked great. But, closer inspection with a flashlight showed that most of the goo was untouched. So, the tank came home and I pondered another method. I then took a gallon of water wash-up paint remover and poured it in the tank. I then took duct tape and closed up the external openings in the tank. Several times during the day I would slosh the paint remover around in the tank. After about a day of this, I used a water pressure washer to rinse out the paint remover. This worked very well and the goo was eliminated.

There are a lot of parts in the calliope that depend on sheet metal fabrication skills. The pressure tank is an example of this. The tank was closely inspected for air leaks. When the tank was constructed it was riveted and then soldered together. There are struts inside which are used to strengthen the sides of the tank. These were soldered into place before the tank was finally soldered shut. One of the struts had broken loose from the side farthest away from the access hole. How to reattach this was a problem. The solution was to drill a hole in the side where the broken strut attached to the side and insert a bolt through the end of the strut and the side of the tank. A nut was secured to the bolt and soldered to the side of the tank. The broken strut is now secured to the tank side.

Now we turn our attention to the frame. The frame is constructed from angle iron that is welded onto a sheet metal base and reinforced with braces at the corners. The upright leg in the lower right side shows the slight kink about one foot up from the bottom. This was apparently due to a blow to this area, which was sufficient to bend the leg. We rigged up sort of a rigid support with wood and clamps to support the leg below the kink and then take advantage of leverage to bend the leg above the kink to straighten the leg. This was done a bit at a time checking to see that the frame was going to end up being square with the other legs. We also checked this against the wooden sides of the case and the top to be sure everything was going to fit together at the end. After this straightening process, we wire brushed the frame to remove the rust, dirt and old paint. **Figure 11** shows the finished frame and pressure tank painted with the satin black paint.

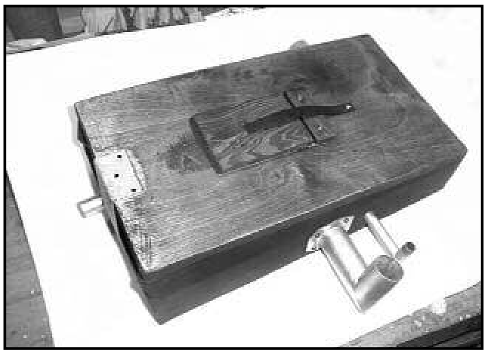

Figure 12. Restored vacuum reservoir.

In **Figure 12** we see the completed restoration of the vacuum reservoir. We used a cloth web strap to limit the amount of opening of the reservoir to prevent it from using the shelf above as a limiter. This would put a lot of stress on the shelf due to the force of the reservoir top in an upward direction. Inside the reservoir is a vertical dowel attached to the base that can contact the underside of the spill valve. As the reservoir collapses, at a certain point before the reservoir is completely closed, the spill valve is forced open by this dowel. This arrangement allows excessive vacuum to bleed off and to maintain a reserve supply of vacuum to cope with the fluctuating demand to operate the machine.

Figure 13 shows the vacuum reservoir and the air motor vacuum control valve mounted in the machine. The vacuum control valve is a simple type of slider valve, which serves to increase or decrease the amount of vacuum applied to the air motor.

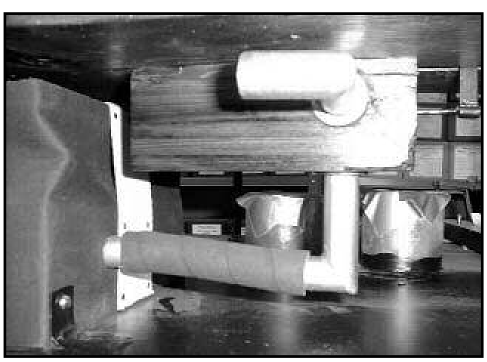

Figure 13. Restored vacuum valve to control the roll frame speed.

Figure 14 shows the restored vacuum air motor. Note the wooden block with the two nipples on it. The nipple on the lower side is the inlet for the regulated vacuum to the air motor coming from the vacuum control. The nipple on the top is the inlet for the vacuum supply to increase the speed of the air motor for the rewind function of the roll frame.

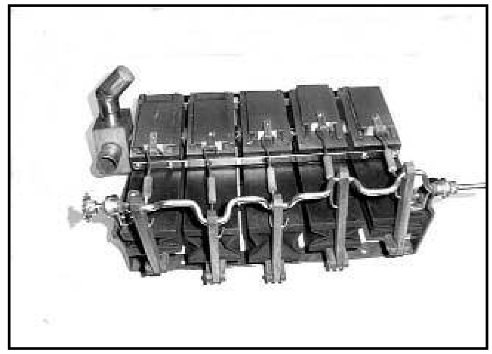

Figure 14. Restored air motor.

Figure 15 shows a close-up view of the inside of the top nipple. Inside this nipple is a check valve. This internal valve serves to seal off this nipple when the lower nipple has vacuum applied to it and the upper nipple does not. In this mode, the vacuum is directed to the air motor from the vacuum control box and prevents leakage through the top nipple. This nipple is connected to the unit, which controls the rewind vacuum supply and the stack cutout. When the higher level of vacuum for rewind is applied to the top nipple, the check valve opens and causes the air motor to operate at a higher speed for the rewind function.

Figure 15.Air motor nipple with check valve.

Next we will remove the pneumatic stack for restoration. **Figure 16** shows the stack removed from the machine. The linkages to the arms, which are attached to the keyboard linkage, are also removed. On the bottom of the stack are the nipples for the tracker bar tubing. Just above the nipples are a row of screws which provide access to the bleed cups. The valve and pneumatic units are mounted on the face of the stack, each by means of two screws.

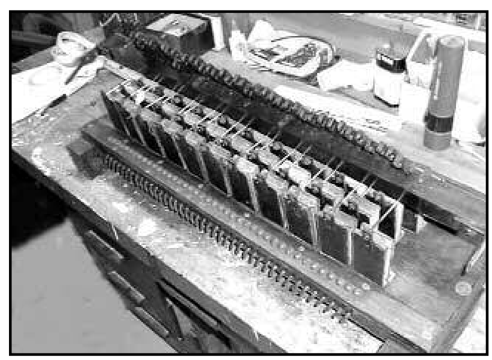

Figure 16. Unrestored pneumatic stack.

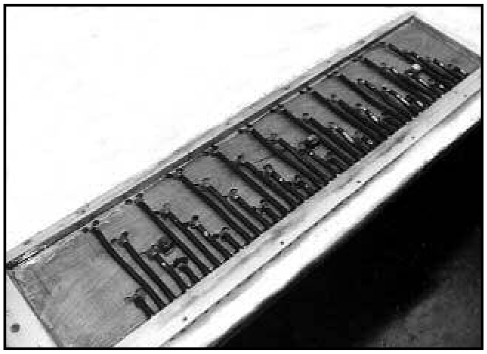

Figure 17. Inside view of the pneumatic stack.

In **Figure 17**, we see the inside of the pneumatic stack after the back has been removed and new rubber tubing installed. The back of the stack is attached with a gasket and screws. The Tangley uses a different approach to stack design than we see in the Wurlitzer stacks. Wurlitzer used channels cut into wood to transport the vacuum to the valves and the pneumatics. The Tangley uses a box type arrangement, the interior of which is under a condition of vacuum. The nipples from the tubing from the tracker bar are connected to each valve by means of a piece of rubber tubing inside the box running to each valve. The air coming in from the tracker bar is transported to the valve by this tubing. There are two feeder holes for the vacuum to each valve unit. Each nipple inside the stack is checked to be sure that they are tight with no leakage. **Figure 18** shows the front side of the stack with the bleed screw strip installed, and with a new gasket. A leather washer is installed under each bleed screw to insure there is no leakage.

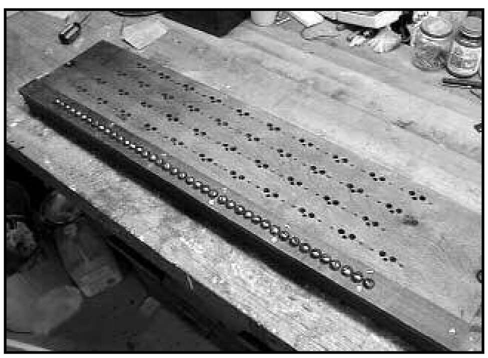

Figure 18. Front view of the pneumatic stack.

The Tangley Calliope uses a different approach to valve and pneumatic design from that of the Wurlitzer machines. Each Tangley valve and pneumatic are comprised of a single unit. The valve assembly is mounted on the pneumatic and each unit serves a single note on the machine. In **Figure 19**, we see an unrestored valve and pneumatic assembly shown as the complete unit and the unit taken apart to show the individual components. These parts include the pneumatic, the valve body casting, top plate casting, internal movable part of the valve, the pneumatic finger and the gasket. This arrangement allows you to easily service a pneumatic or a valve problem by removing the unit from the face of the stack. Each valve pneumatic unit is independent and removed by unscrewing it from the stack. Servicing the pneumatics on a Wurlitzer machine requires removal of the stack. Unless the Wurlitzer has the unit block valves, stack removal and disassembly is also required to access the valves. So, the ability to remove these individual units for servicing is a very nice feature.

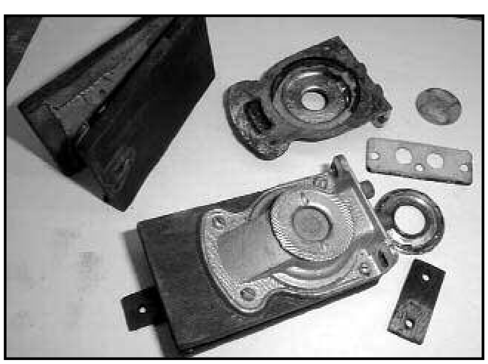

Figure 19. Pneumatic stack valve unit and disassembled parts.

The metal valve parts are cast in some type of pot metal so extreme care must be used when working with these parts. There is no source for replacement castings so if you break one you are out of luck. The first step is to remove the top plate. These were glued on with heat sensitive material so the valve was gently warmed with a heat gun till the glue is softened. A knife blade is carefully inserted between the valve body and the top plate. The heat gun has softened the glue and the top plate is gently lifted up and off the valve body. The four small screws holding the valve body to the pneumatic are removed. The knife is inserted between the valve body and the wooden top of the pneumatic and the body separated from the pneumatic. It has been a long time since these valves were restored and the glue used was very brittle and the parts came apart very easily with a little pressure from the knife blade.

After the metal valve casting has been removed from the pneumatic, the old covering is removed. The wood is sanded to remove the old glue and new pneumatic cloth and hinges applied.

The internal movable portion of the valve consists of a fiber disc, covered with leather facing on both sides. A small wooden block is glued on the lower facing. This serves to contact the fiber disc lifter, which is glued on the pouch. When the pouch inflates, the lifter pushes up on the wooden block and valve to allow vacuum to flow into the pneumatic. After disassembly, the metal valve units are cleaned and the old pouch leather removed. The under side of the metal valve casting is gently sanded to true up any warped areas. This is done by placing a sheet of very fine emery paper on a sheet of glass, which gives you a flat surface. The casting is then gently rubbed over the emery paper, which will reveal any low spots from the surface being warped. This is done till the surface shows a flat surface.

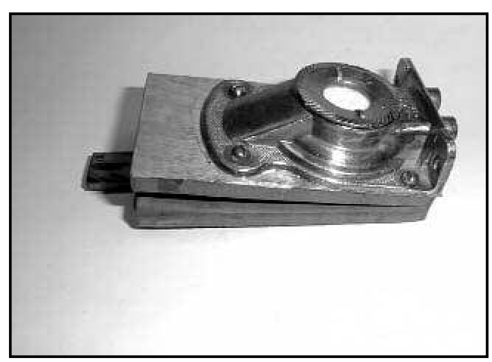

Figure 20. Restored pneumatic valve unit.

Figure 20 shows the finished valve and pneumatic unit. The small wooden fingers have also been removed and reglued. As mentioned before, this design is very nice in that the valves or pneumatics can be individually removed for servicing.

There is one drawback however. As a result of fluctuation in humidity and the resultant expansion and contraction of the wooden portion of the pneumatic, the joint between the metal valve body and the pneumatic tends to fail. When the joint fails and loosens, a vacuum leak is created. In this case, hot glue has the disadvantage of hardening to become brittle. This glue tends to break loose from the metal valve body and allow leakage. To minimize this problem, we will use glue that has some flexibility after it has set. Fabric stores sell glue, which works well for this purpose, SOBO Craft, and Fabric Glue. It is sold for use on surfaces like paper, ceramics, ribbons, silk flowers etc. It dries to a clear flexible joint.

Also in Figure 20, note the top plate on the valve. There is no means to adjust the valve clearance on the internal movable portion of the valve, this adjustment is made by rotating the top plate. The body of the valve casting has an inclined ramp to match another ramp on the underside of the top plate. So, by turning the top plate one way or the other the ramps will cause the top plate to be raised or lowered. To glue on the top plates we want a material that will hold them in place but allow for their removal in the future. For this, we use "Indian Head Gasket Shellac Compound." This material can be obtained in auto parts stores. They use this on gaskets for automotive applications. This material has enough body to it to hold the top plate in place as you position it for the proper valve clearance. It takes a grip on the parts rather quickly and holds the top plate in position nicely. However, you have to let the valves sit undisturbed for a few weeks for it to harden enough that the top plate can not be moved. Later, the top plate can be easily removed if necessary by warming the top plate gently with a heat gun to soften the gasket compound.

Next we will disassemble the calliope wind chest. Unlike the Wurlitzer organ, which used wood for construction of the wind chest, the Tangley Calliope wind chest is constructed with fairly heavy sheet metal and soldered together.

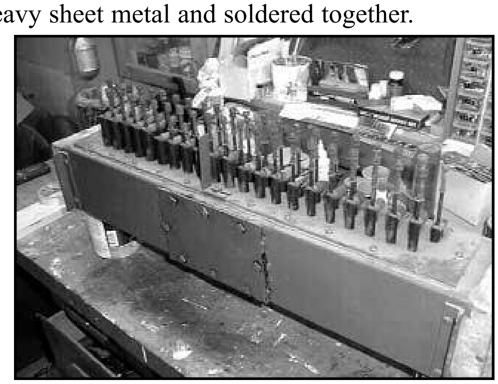

Figure 21. Unrestored windchest

In **Figure 21**, the wind chest is in an upright position, sitting on some cans to raise it up for clearance for the pressure inlet tubes and the workbench. The outlets for the tubing going to the pipe work consists of elbows positioned over holes in the top of the wind chest. These elbows are soldered in position over the holes. Also note the square plate covering a large hole in the front of the wind chest. Removal of this plate allows access to the inside of the wind chest to be able to remove the valve to service the valve facings if necessary.

On the top of each elbow is a piece of tubing soldered in an upright position over another hole on the top of the elbow. Through this tubing, a push rod is placed. On the bottom of the rod inside the wind chest is a metal disc, faced with rubber. On the upper end of the rod is a spring arrangement, which holds the rod in an upper position, causing the lower disc to be held against a seat in the underside of the top. This provides a seal and prevents wind from flowing through the elbow. When the push rod is depressed, the valve disc is moved down and off the seat and wind flows into the elbow and to the pipe work.

Figure 22. Front view of disassembled windchest.

In **Figure 22**, we removed the front access plate and the top of the wind chest. The top plate, which has the elbow arrangement, is bolted on and has some material that looks like tarpaper for a gasket. This same material was used for the front access plate. The wind chest has several different coats and different colors of paint on it from previous touch-ups. The old paint and the gasket material will be stripped off and the inside cleaned in preparation for a fresh coat of paint. The front access plate is held on with bolts. The bolt heads are soldered to the inside of the chest with the threaded end facing outward so nuts can be screwed on to retain the plate. Several of these are broken loose and will be replaced.

The elbows are all soldered to the top plate and the whole elbow and push rod unit can be removed in one piece. Note there are a variety of different size elbows, the larger diameter elbows will be connected to this size diameter hose to provide more airflow to the larger pipes. The smaller pipes won't need as much to speak and so smaller diameter elbow and hose can be used. Several of the push rod tubes were also bent over a bit. These were straightened so they would have a good alignment with the keyboard. We will use a cork strip for the gasket between the body of the wind chest and the top. We used a gray automotive primer, which give us a nice flat gray appearance for the finish on the chest.

The wind chest push rods are removed by taking the leather nuts and the spring off the top end of the rod. The rod then drops down and can be removed. On the bottom end of the rod is a head, which resembles the head of a nail. The difference is that the head has tapered sides on it that allows the valve backing a bit of a wobble. This allows for a nice tight seat since the backing is free to adjust itself to the upper seat. The rest of the valve consists of a metal backing, a facing, a washer and a small collar. This collar is soldered on the rod to hold the valve together. In **Figure 23**, the small collar has been unsoldered from the rod and moved up the rod for the picture. Removing the collar allows the washer and the facing to be removed. A soldering

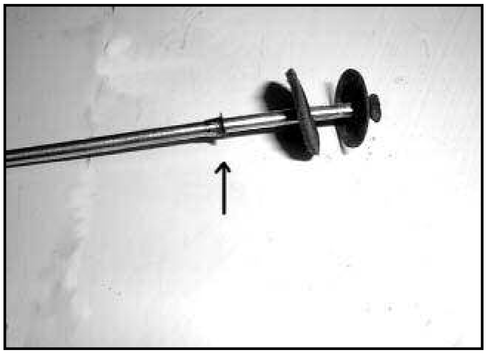

Figure 23. Windchest push rod with facings, the arrow pointing to the collar.

iron is used to melt the solder and slide the collar up before the solder hardens. Valve facings were punched from a new piece of a rubber (tractor tire) inner tube. These facings were glued to the backings. The rod is cleaned up and the backing with the new facing is slid onto the rod along with the retaining washer. The small collar is then slid into position against the washer, facing and backing. The collar is then re-soldered in place. The push rods with the valves are installed in the push rod tubes.

Figure 24. Top view of restored windchest.

Figure 24 shows the valve push rod assemblies reinstalled in the wind chest and the wind chest top bolted on. On top of the tube, which holds the push rod, there is a washer soldered in position slightly below the top to retain a spring from sliding down the tube. The top end of the rod is threaded. Leather nuts are threaded on the rod to retain the upper end of the spring. The top leather nut contacts the bottom of the keyboard key. When the key depresses the rod, the valve is opened in the wind chest and the air is allowed to flow to the pipe. When the key is released, the spring forces the push rod and valve up into the closed position and air to the pipe is stopped.

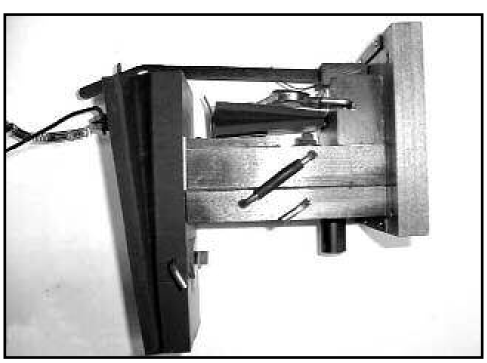

Figure 25. Restored rewind shifter valve.

The rewind/play pneumatic shifter mechanism serves to control the operating mode of the roll frame. In the one position, the roll frame is in the mode which will play the music roll and the other mode serves to rewind the music roll and return the frame again to the play mode after the rewind phase. **Figure 25** shows the restored shifter.

The shifter is composed of three parts, the large pneumatic to move the mechanical linkage of the roll frame, the middle portion which houses a primary and secondary valve, vacuum inlet nipple and the end which has a valve pneumatic assembly to release the large pneumatic from the rewind position.

The large pneumatic requires more vacuum to operate quickly than a single valve can supply. Restoring the unit consisted of cleaning it up, recovering the pneumatics, new pouches, new valve facings and making a new mounting block. I notice that on some of the wood parts of the calliope, Tangley stained some of the wood to make it look like a sort of mahogany color. So, I used Minwax stain to also create this effect.

The Sequence of Operation is as follows:

1. The large pneumatic is open (no vacuum applied) and the roll frame is in the play mode.
2. At the end of the music roll, the rewind perforation goes over the rewind hole in the tracker bar.
3. Atmospheric pressure arrives at the primary valve in the shifter and the primary valve triggers the secondary valve and supplies vacuum to the large pneumatic causing it to collapse.
4. When the pneumatic is collapsed the latch on top the pneumatic is engaged and the pneumatic is held in the closed position.
5. The collapsed pneumatic pulls on the linkage to the roll frame and shifts it into rewind.
6. The rewind hole in the tracker bar is again covered as the roll rewinds. Vacuum to the pneumatic is released.
7. When the pneumatic is held in the closed position by the latch, a stem inside the pneumatic forces an external pallet valve on the back of the pneumatic open. Atmospheric pressure flows through the small nipple and triggers the stack cutout to block the vacuum supply to the main stack, preventing the music roll from playing during rewind.
8. The music roll continues to rewind until the play hole in the roll crosses over the play hole in the tracker bar. Atmospheric pressure flows to the valve pneumatic on the top of the unit.
9. The pneumatic on the valve pneumatic unit collapses and the small finger on the pneumatic forces the latch holding the large pneumatic in the closed position to be released.
10. The spring mounted between the large pneumatic and the roll frame pulls the large pneumatic open moving the roll frame into the play mode.
11. When the play hole in the tracker bar is no longer exposed as the music roll moves forward, the valve pneumatic is released.
12. When the large pneumatic opens the valve on the back closes again, operates the stack cutout and vacuum is again restored to the stack.
13. The cycle is complete and the music roll plays once more.

The rewind shifter always has a constant vacuum supply regardless of the mode the roll frame is in. So the play, or rewind function, is always available to operate. The calliope has a remote play or rewind valve unit, which is accessed from the top of the machine. This allows the operator to shift the roll frame to the play or rewind mode at will.

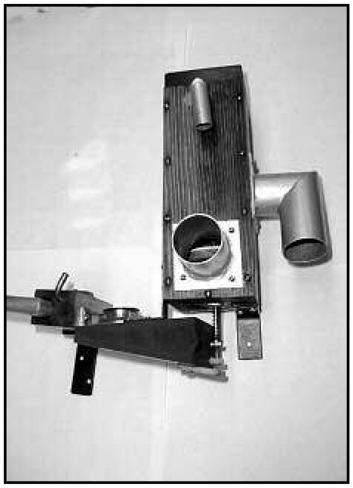

Figure 26. Restored stack vacuum cutout unit.

The stack cutout pneumatic mechanism serves three functions. It shuts off the vacuum supply to the stack so the notes on the music roll do not play during rewind, supplies unregulated vacuum to the air motor for the rewind phase and to supply vacuum to operate the take up spool brake shoe.

Figure 26 shows the restored stack cutout. The unit is composed of a box with three chambers. It has an internal valve, which can channel the vacuum to either the top chamber or the bottom chamber. The middle chamber is connected to the vacuum reservoir located on top of the large pressure tank. This reservoir is connected directly to the vacuum pump so the cutout middle chamber receives full vacuum (unregulated vacuum) from the pump. The internal valve is spring loaded so as to keep the vacuum channeled out the nipple connected to the stack. When the pneumatic collapses, it pushes up on the rod attached to the internal valve. The valve is forced up to shut off the vacuum to the lower chamber and apply vacuum to the upper chamber.

The upper chamber has two outlets. The nipple is connected to the pneumatic which operates the brake shoe on the take up spool. The other nipple is connected to the vacuum motor. This supplies the air motor with full vacuum to produce a fast speed for the rewind.

When the rewind shifter returns to the play mode, the atmospheric pressure to the valve on the cutout is shut off, the pneumatic opens and the spring forces the internal valve downward to again restore vacuum to the lower chamber and shut off the vacuum to the upper chamber. The cycle is completed.

The Tangley Calliope has a very heavy duty roll frame, as evidenced by the gears. **Figure 27** shows front view of the frame removed from the machine. The tracker bar tubing has been cut off since the tubing is so old and hard some of it will need to be scrapped off the nipples. Photos and a careful diagram of the hose arrangement were made. Since the calliope has 41 playing notes on the stack (the top two notes on the keyboard are not stack operated) and the "A" roll arrangements have 58 playing notes (the other holes are for control functions), some of the holes in the tracker bar are octave coupled to allow the 41 notes on the machine to play the 58 notes on the "A" roll.

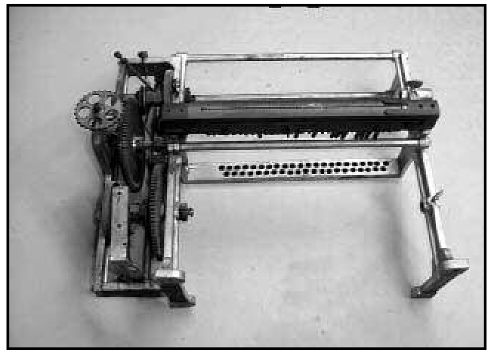

Figure 27. Roll frame removed from calliope.

In the center of the gear cluster there is a sprocket type pulley which will be connected to the air motor by means of a ladder type chain (**Figure 28**). This drives a smaller gear meshed to large gear on a main drive axle. The large gear (vertical gear) serves to drive the supply spool when the rewind mode is engaged. On the main drive axle is another small gear meshed with another small gear which is then meshed to a large gear on a drive axle which serves to drive the take-up spool. These two gears also serve to reduce the Rpm's of the take-up spool. This gear arrangement allows slow Rpm's for the take-up spool while the machine plays and much faster Rpm's for the supply spool during the rewind function.

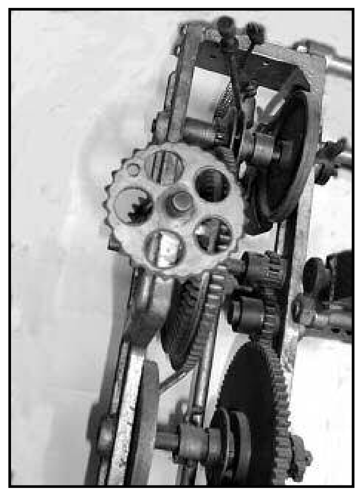

Figure 28. Closeup of roll frame gear arrangement.

The drive axles for the take-up spool and the supply spool are each equipped with a clutch arrangement to allow for shifting the power from the air motor back and forth between the take-up spool and the supply spool to allow for a play mode and a rewind mode.

Part II of *Norman Baker's Invention, "The Tangley Calliaphone"* will appear in the October, 2005 issue of the ***Carousel Organ***.

Bill Black is a practicing dentist in Chambersburg, PA. He has a life-long interest in Wurlitzer band organs. His collection includes Wurlitzer styles 105, 125, 146, 153, 165 and a Caliola.

Norman Baker's Invention "The Tangley Calliaphone"
Part II

Bill Black

In the center of the gear cluster there is a sprocket type pulley which will be connected to the air motor by means of a ladder type chain (**Figure 28**). This drives a smaller gear meshed to large gear on a main drive axle. The large gear (vertical gear) serves to drive the supply spool when the rewind mode is engaged. Also on the main drive axle is another small gear meshed with another small gear which is then meshed to a large gear on a drive axle which serves to drive the take-up spool. These two gears also serve to reduce the RPMs of the take-up spool. This gear arrangement allows slow RPMs for the take-up spool while the machine plays and much faster rpm's for the supply spool during the rewind function.

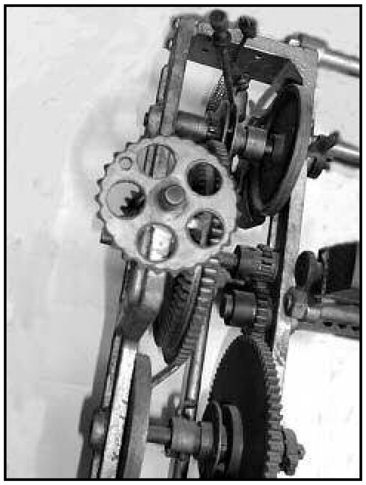

Figure 28. Close-up of gear frame arrangement.

The drive axles for the take-up spool and the supply spool are each equipped with a clutch arrangement to allow for shifting the power from the air motor back and forth between the take-up spool and the supply spool to allow for a play mode and a rewind mode.

The lower section of the gear arrangement shows the drive axle for the take-up spool. There is a clutch on the take-up spool axle. A vertical rod controls these clutches with a small arm engaging a groove in the clutch. This arm moves the clutch into either an engaged or a disengaged position. The clutches are made so that when one is engaged the other is disengaged. The vertical rod, which controls this function, is connected to the rewind pneumatic that was noted before. When the rewind pneumatic is open (no vacuum applied) the roll frame is in the play mode (lower clutch engaged and the take-up spool is powered). When the rewind pneumatic collapses, the vertical rod is pulled toward the pneumatic, the vertical rod rotates, the take-up spool clutch is disengaged and the clutch on the supply spool axle is engaged. This is now the rewind mode. At the end of the rewind on the roll, the play valve on the rewind pneumatic unit is triggered, the latch is released that holds the rewind pneumatic closed, a spring pulls the pneumatic open, rotating the vertical rod in the opposite direction and the frame shifts back in the play mode.

The roll frame is also equipped with a brake system for both the take-up and the supply spool. This is to help keep the roll paper against the tracker bar and also to help keep the paper tight on the spools during the play and rewind functions.

This mechanism operates by means of wheels attached to the drive axle and the supply spool axle. When the roll frame is in the play mode, a spring holds the brake shoe against the wheel on the axle, which drives the supply spool thereby applying a drag on the supply spool. This helps to provide a tight wind on the paper.

When the roll frame is in the rewind mode, vacuum from the stack cutout is channeled to a pneumatic on the roll frame. This pneumatic pulls the brake shoe onto the wheel on the axle, which drives the take-up spool. At the same time, the brake shoe on the supply spool is released. The drag from the brake shoe on the take-up spool causes the paper to have a tight wind on the paper as it rewinds.

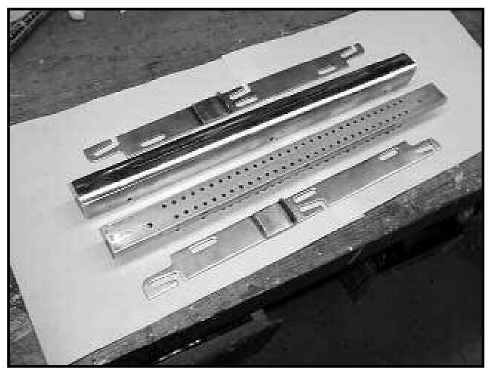

Figure 29. Disassembled tracker bar assembly.

In **Figure 29** the tracker bar has been removed and taken apart. The unit is composed of four pieces, the front portion which reads the roll, the back plate with the nipples for the tubing, and two mounting brackets. The parts have been cleaned and polished. The front part is removable by means of brackets, one on the top and another bracket on the bottom of the back plate. These slide back and forth by means of slots and screws. The front portion also has screws that engage other slots, which are positioned at an angle so that as the brackets are moved sideways, the tracker bar is drawn down against the back plate to create a seal with the back plate. Both these parts are faced with a leather gasket. We use a fine mesh screen between the two parts to trap the paper dust from the music roll. This arrangement allows the removal of the bar to clean off the screen.

The various parts of the frame were removed, cleaned and sprayed with metallic silver paint. Then a clear coat was applied which helps make the silver more durable. The other parts of the frame, including the gears, were cleaned; some painted with the silver finish and others just with a clear finish. The entire frame was reassembled along with the supply and take up spools so that the operation of the frame could be checked.

Next we will build the unit which will provide wind pressure and vacuum for the calliope. Rather than use the Roots blower that came with the calliope, we will use a smaller and lighter unit.

This unit was actually constructed several years ago. The late Mike Kitner also had a Tangley, which he planned to restore. Mike had designed this unit and used it before on calliopes. Mike and I built two of these units at the same time. They were basically the same except for a few small items. I installed a vacuum gauge on mine so I could see what the vacuum level was when the machine was playing. I also installed an electrical outlet to plug in a strobe tuner and a work light.

We used two vacuum motor pumps. One has a captured exhaust, which allows it to supply wind pressure. **Figure 30** shows these two motors positioned on a mounting board inside the wooden case for the pumps. The larger motor is the one used to supply the wind. This photo is as seen from the bottom of the box. Cleats have been installed on the lower part of the sides in order to mount the bottom of the box.

Figure 30. Vacuum Motor pumps.

In **Figure 31**, the completed unit is shown. It has switches to turn the vacuum or the wind motor on or off. If you want to play the calliope by hand, the vacuum motor does not need to be operating. Also visible is the electrical outlet and the vacuum gauge mounted on the top. We use a 110-volt light switch dimmer to regulate the speed of the vacuum motor and the vacuum level produced. The adjustment for the dimmer is accessed through a small hole in the side of the case. The entire unit is mounted on a small dolly, which matches up with the dolly for the calliope. To connect the unit to the machine, I just slide the unit up to the calliope and push the hoses onto the nipples on the calliope. The design works well but has two minor disadvantages. Two vacuum motors running at the same time create some noise (nothing compared to the volume of sound the machine produces) and the heat generated warms up the air pressure supply to the calliope. This doesn't seem to have any effect on the pitch of the pipes. The excess heated air exhausted from the spill valve on the pressure tank is right below the pneumatic stack which gives me some concern regarding it's long term effect on the stack. Having no experience with an original Roots Blower system, I don't know if that air ends up heated also. Maybe one of our readers can comment on this.

Figure 31. Assembled vacuum and pressure unit.

In **Figure 32** we have done some work on the frame and assembled some parts. The corner moldings, handles and some trim rings were sent to the brass plater to be plated. This brass trim will complement the brass pipe work.

Figure 32. Refinished case frame with pressure tank.

Since the sides and other panels of the calliope case had suffered many dents, we decided to have new sheet metal parts made to replace these damaged panels. Actually, only the two sides of the case and one bottom panel were still original pieces. The side panels were in fairly bad shape at the bottom. As patterns, we used what original panels we had and borrowed the remaining panels from the late Mike Kitner's calliope. As it turned out, there appears that some hand fitting was done when Tangley made the panels for the cases and there was some difference between the size of my panels on my machine and Mike's. More on this problem later.

In **Figure 33** we have installed the stack in the calliope. We use a strip of motor cloth tacked onto the top of the stack to act as a dust cover to protect the top facings on the stack valves from debris. The upright brace shown in the photo will act as a support for the center of the stack linkage, which will be installed later. In the lower part of the photo you can see the pressure relief valve installed on the tank. The disc with the leather facing is spring loaded. By adjusting a nut on the threaded stem, the pressure on the valve can be varied by the amount of compression on the spring. More spring pressure causes the wind pressure to spill off at a higher value. So, by means of the adjustment, the operating wind pressure of the calliope can be set.

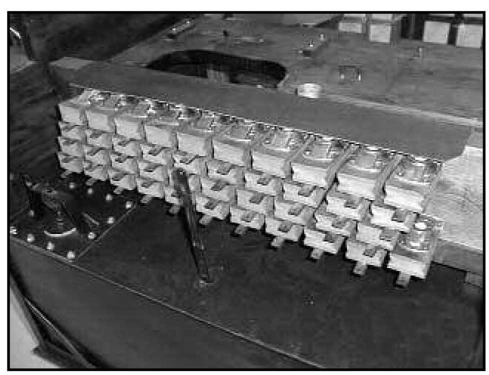

Figure 33. Pneumatic stack installed.

Now that the pneumatic stack is installed we can see that the operating motion of the stack pneumatics when they collapse is in an upward direction. The direction of motion of the keys on the keyboard is of course a downward direction. So, we need some mechanism to connect the stack pneumatics to the keyboard. This is accomplished by a mechanism we will call the stack linkage.

Figure 34 shows this un-restored linkage. It consists of wooden fingers with a long rod running through the center of each finger. When the one end of the finger moves downward

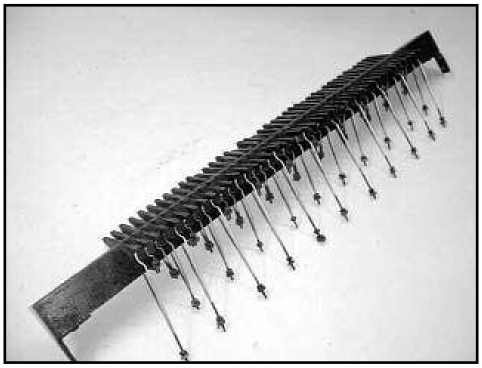

Figure 34. Stack linkage mechanism.

the other end moves in the opposite direction. The long rod is enclosed in a groove in the wood strip, which supports the whole arrangement. This linkage was rather oily since it is located close to the pressure exhaust valve on the pressure tank. The Roots blower likes to put out a bit of oil mist during its operation and some of this ends up on the linkage.

We are now ready to install the wind chest (**Figure 35**). The two large pressure inlets on the wind chest are connected to the outlets on the pressure tank by two large hoses. These large hoses have a three-inch diameter. The originals were in bad shape so I needed to find new ones. I figured this would be a difficult item to find. We have a farm supply store here in my town which stock radiator hoses for farm equipment and I thought this might be the best place to start the search. I took the old hose to the store and showed it to the parts man. Surprise... this diameter hose happens to be a common size hose on old tractor cooling systems. He had about a three-foot piece in stock. This hose was the exact same material and appearance as the original. The new hoses are a nice tight fit and required no clamps to keep them in place.

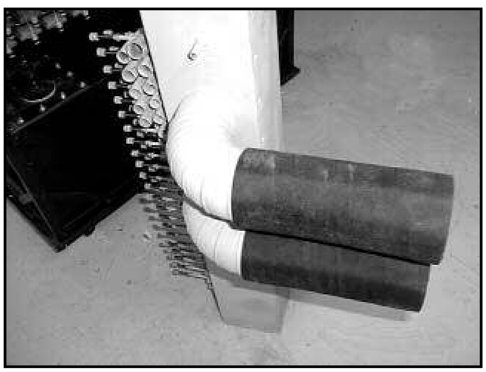

Figure 35. Large wind feeder tubes on wind chest.

Figure 36 shows a front view of the wind chest installed in the machine directly above the stack linkage, which is also installed. There are square cutout holes in the wooden sides of the case in which the wind chest fits. These holes are large enough to allow the wind chest to slide into position. Then small wedges are inserted between the wind chest and the case to secure the wind chest in the hole. The main support for the wind chest is provided by the wind chest resting in these rectangular holes in the sides of the case. Two brackets on the ends of the wind chest are fastened to a cleat, which in turn is mounted to the side of the case. This maintains the position of the wind chest in the case. Also visible is another cleat, which provides additional support for the handles on the outside of the case.

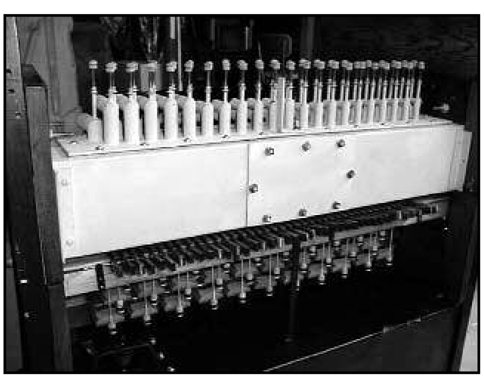

Figure 36. Windchest installed.

In **Figure 37** we have installed some of the previously restored internal parts in the calliope.

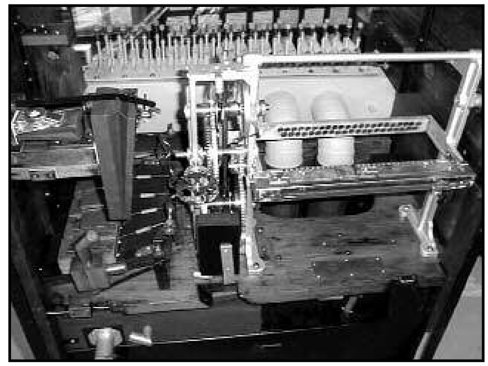

Figure 37. More assembly of internal parts.

Figure 38 shows another view of the assembled parts along with the tracker bar tubing which is now installed. Mike Kitner had advised me to preserve the tubing to be used again if possible because the availability of thin wall rubber hose of the correct diameter was limited and would be very hard to find. When the hoses were removed they were numbered according to the corresponding pipe number. They proved to be in pretty good shape with the exception of one of the larger hoses being split. Some of the hoses included elbows in the case where there was a sharp turn in the hose required to attach to the top nipple.

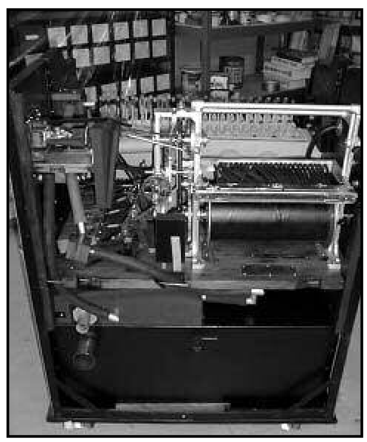

Figure 38. Tracker bar tubing installed.

One of the interesting things about old music machines is you sometimes find curious repair jobs. **Figure 39** shows an interesting repair. Suppose the operator knows zip about the machine and is on the road with the calliope playing a job and suddenly there is a pesky pipe that plays all the time. What to do? The operator finds the hose supplying air to that pesky pipe, uses two pieces of

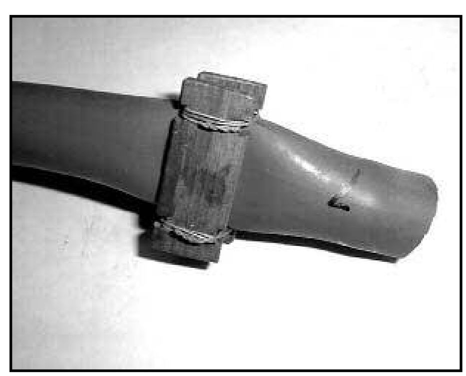

Figure 39. On site emergency repair.

wood with some notches, clamps it onto the hose with some wire, which collapses the hose and chokes off the air supply to the pipe. Problem solved, but of course that pipe no longer plays.

Using the numbers on the wind chest nipples, the numbers that I put on the hose during the disassembly, and the numbers on the nipples on the top, the wind chest is tubed to the pipe work. This proved to be a challenge since the old hose had a memory in regard to its shape and I had to figure out which hose went over top or under the other hoses. In some cases the old hose was a loose fit on the nipple due to the hose size being a bit larger than the nipple. To overcome this, friction tape was wrapped around the nipple to shim it up. Shellac was applied to the nipples before the hose was slipped on. This serves to fasten the hose to the nipple and prevents the hose from blowing off the nipple when air pressure is applied to it to blow the pipe. One of the larger hoses was in bad shape so it was replaced with a piece of black hose.

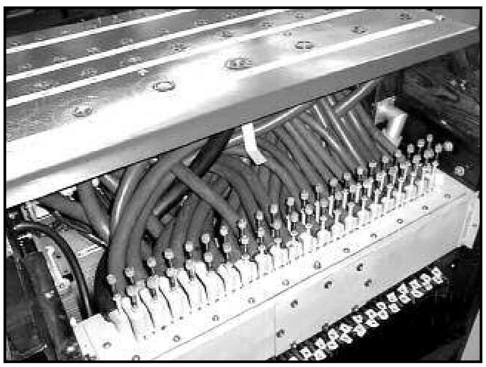

Figure 40. Hoses from windchest to pipework installed.

Figure 40 shows the view of the tubing from the keyboard side. This mass of hoses really fills the area under the top of the calliope. There is little clearance between the hose and some of the wind chest push rods when the hose is on the nipple. Thick wall tubing just won't fit. Excessive pressure on the metal tube housing for the push rod tends to break the solder joint and allows the push rod to move out of position and become misaligned with the key on the keyboard.

Figure 41 shows the un-restored keyboard in the calliope before the restoration of the machine was begun. The original key coverings were removed and replaced with Formica coverings. In the process, the keys had been sanded making them a bit smaller than they had been. Examination of the keyboard after removal from the machine showed the tail ends of the keys were worn in addition to the results of the sanding and recovering problem. Mike thought that the original keys were not worth recovering; he also reasoned that Tangley had not made the keys but had purchased them from another source, perhaps a piano company that made keys for their pianos.

Figure 41. Unrestored keyboard.

Mike wondered what the size of the keys on an old pump organ would be. A mutual friend had such an organ, which was only good for parts. The keyboard was obtained for comparison. In a stroke of good luck, they were almost exactly the same size, close enough that they could be made to fit. Plus, the key coverings were in very good shape. The bed frame was much longer of course since the pump organ had a larger scale.

Figure 42 shows the old keyboard (in the back) and the pump organ keyboard in the front with the appropriate keys that will be used. The angle of the photo makes the keys on the front bed look much longer but they actually are almost identical in size. The other difference in the two keybeds is the location of the pins that mount the keys and hold them in alignment.

Figure 42. Keyboard repair.

In order to deal with this difference, the pump organ keybed was cut off on each end and new ends made to the same configuration as the original keybed. This will give us a keybed of the same physical proportions as the original and permit the use of the pump organ keys using their rail and pin arrangement. The black keys were lacquered and the white keys cleaned. The keyboard arrangement is now the same size as the original and looks great!

Now that we have the keyboard repaired, we can install it in the calliope. **Figure 43** shows the keyboard mounted on the wooden cleats attached to the side of the machine. In addition, the linkage mechanism from the pneumatics has also been installed. Each key has a metal finger attached to the underside of the key. Keep in mind that the push rods on the wind chest contact the underside of the keys so that when the key is depressed, the push rod on the stack is depressed directly. The metal fingers will serve as a linkage from the keys to the pneumatic stack. I thought it might be a good idea to use leather nuts on each side of the metal fingers to prevent any lost motion when the machine is in operation. After completing this and examining how this would work, I realized I had made a mistake. That would work when the machine was playing from the music roll as the rod is being pulled in a downward direction, but this was not going to work when the

Figure 43. Windchest linkage installed.

machine was being played by hand. In the case of the hand playing, the rod is now being pushed in a downward direction by the key, putting the pressure on the small metal wire, which holds the rod in the wooden finger slot. Eventually, this would cause the wire to fail and the metal rod would no longer be retained in position in the wooden finger. The result would be that the linkage between the stack and the wind chest would be disconnected when the rod came out of the slot in the wooden finger.

So, I went back and examined the photos taken before and during the disassembly of the machine. I then saw the correct arrangement of the leather nuts on the rods. Note there is no nut on the underside of the metal finger from the key. In this arrangement, when the key is depressed, the metal finger slides down the rod and the linkage to the stack does not move. So, the linkage is only in operation when the machine plays from the music roll. During the hand play mode, the keys are not functionally connected to the linkage. I went back and removed the leather nut from under each finger and now it is correct.

During the beginning of this project, Mike was working on a machine, which had some brass pipe work that needed to be polished. He liked to deliver the pipes rather than risk shipping, so this was a chance to have my calliope pipes along with the pipes from his calliope polished at the same time. There were a few small dents in several of my pipes. The restoration fellow removed the dents and the brass was polished and lacquered. When they were finished, they were beautiful. We are now at the point were we can turn our attention to the pipe work. Having this done prior to getting the machine finished and actually trying out the pipe work proved to be a small error.

During the polishing procedure, the mouths of the pipes were filled up with the polishing compound. Removal of this material proved to be time consuming. I used a solvent applied with a small brush, along with a thin metal strip with small teeth on the edge, being careful not to remove the nice lacquered finish.

As luck would have it, a problem appeared with one of the pipes. The metal disc forming the mouth of the pipe broke loose at the internal solder joints while cleaning out the mouth. In order to repair the solder joints, it was necessary to remove the lower portion of the pipe. In **Figure 44**, this portion of the pipe has been taken apart. We now have the top portion of the pipe with the spacers still attached, the lower portion and the disc in pieces. Before taking it apart, the height of the cutup was noted so we can reassemble it to the correct dimension. Apparently, some kind of punch was used to produce a series of cuts in the disc, which left one side of the cut intact and the center portion bent down to form sort of a leg. **Figure 45** shows the area where the disc was soldered to the lower part of the pipe. You can see where the legs were attached. Happily, the broken solder joints provided an index for positioning the disc for re-soldering. I cleaned the old solder out of the cuts in the disc, positioned the legs of the disc in the old solder joint below. Carefully heating the disc with a torch in the area of one leg at a time, I flowed the new solder into the cut in the disc, which flowed down the leg onto the solder below to create a new solder joint.

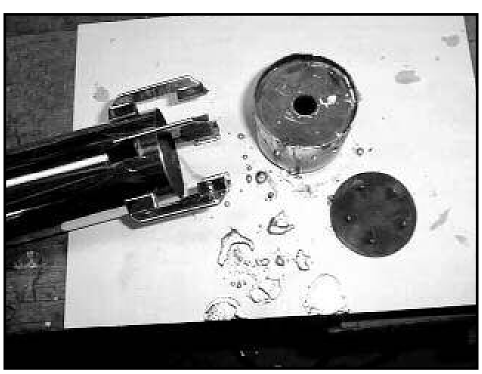

Figure 44. Disassembled calliope pipe.

Figure 45. Failed solder joints.

This worked very well and the disc is now re-soldered to the lower portion of the pipe. **Figure 46** shows the finished repair with the cuts on the top of the disc soldered closed to prevent air from escaping from these holes. To complete the repair to the pipe, the upper part of the pipe is re-soldered in the correct relation to the bottom piece. The problem created with the repair was that part of the nice lacquer finish on the pipe was cooked off and new lacquer had to be applied to the repaired area.

Figure 46. Disc resoldered in place.

Now we are ready to install the finished pipe work. In **Figure 47** we begin to mount the pipes. As you will recall earlier we used masking tape to mark the numbers of the pipes that will be installed in the threaded sockets. The pipe number is marked on the tape.

Figure 47. Installing the pipework.

Figure 48. The calliope plays a music roll.

Figure 48 shows the roll frame side of the calliope. Unable to resist the temptation to see how it sounds, a music roll was placed on the roll frame. The suction and pressure pump box was attached to the calliope and turned on. After a bit of tinkering with the pressure and vacuum it came to life and we had music. The reward for all the work was at hand. It still needed the pipe work tuned and the various systems adjusted. Happily, all the tubing was correct and the pipe work mounted in the correct positions.

Now we are ready to finish the exterior panels of the calliope. First we put some finishing touches on the vacuum and pressure box. After another light sanding the box was sprayed with semi-gloss black paint. We trimmed it up with some brass corners, brass switch plates and some gold leaf. The brass plated trim, nameplate, and decal were installed.

Figure 49 shows the keyboard side of the machine with the completed panels installed. We did run into a problem with the keyboard cover (we had previously used the original panels from the late Mike Kitner's calliope as patterns to have the sheet metal shop duplicate). The keyboard cover with my machine was not original to the machine and was fabricated with a lightweight sheet metal, which did not match the original thickness. The copy made from Mike's machine was not quite wide enough or deep enough to fit. This is one piece I failed to document with photos during the disassembly of the machine. I did not know the relationship of the cover to the upper panel it rests on. An appeal to my fellow calliope owners brought pictures of their machines showing the information I needed. So, we went back to the sheet metal shop with new specs for another cover. Unhappily, this causes us to get out the paint spraying equipment to apply the various coats of finish to the new cover.

Figure 49. Restored keyboard is installed.

Now that the calliope is finished and the various functions adjusted, we can tune the pipe work. Since the Calliope plays the same music roll format as the 65 note automatic player piano "A" roll, the test roll can be used for both machines. The roll can be advanced by hand one note at a time to play individual pipes one at a time.

My favorite tuner is the Conn Strobotuner. It is an old tube-operated machine that has a nice visual display of the pitch and works very well. Having placed the test roll on the machine, we began testing each pipe with the strobe to see if there was an average pitch setting for the strobe for the whole set of pipes so that we can adjust the pipe work to this average. That way we could sort of pull the pitch of each pipe to that average setting without having to make major adjustments on each pipe. These stoppers are rather tight in the pipe and don't tend to move easily so some pipes were still in tune and did not need to be changed.

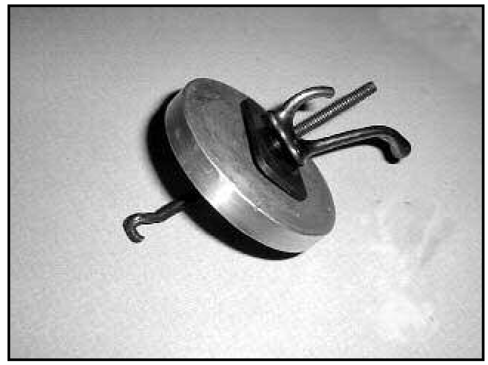

Figure 50. A tool for tuning the pipework.

The pipes are tuned by raising or lowering the metal stopper in the top of the pipe. **Figure 50** shows the tool that is used for this purpose. The tool was made by the previous owner using a bracket from a coat rack. The bracket was drilled and tapped for a thread to match the threaded rod. The end of the rod has a hook, which can engage a metal loop on the top of each stopper. By placing the hook in the loop and placing the large washer of the tool on top of the pipe, the stopper can be raised in the pipe by winding the bracket down against the washer (**Figure 51**). The extended part of the bracket is easy to grasp to turn. Raising the stopper lowers the pitch of the note the pipe plays. There is also a smaller tool to be used on the small pipes. If the pitch of the pipe needs to be raised, the stopper is tapped downward in the pipe. By setting the strobe to the pitch the pipe is to played at, and by raising or lowering the stopper, the pipe is tuned to the indicated pitch on the strobe.

Figure 51. Tuning the pipe.

Each pipe has the pitch adjusted to the indicated note setting on the strobe. I indicated on the music roll the note that is being played so the strobe can be set to the correct note.

Figure 52 happily shows the completed project.

Figure 52. Restoration completed.

Note: This article is a compilation of a series of monthly articles on the restoration of the calliope published on Bruce Zubee's carousels.com Internet web site. To see the complete series of 38 articles over a three-year period, visit: carousels.com

Part I of *Norman Baker's Invention: "The Tangley Calliaphone"* appeared in the July, 2005 issue of the ***Carousel Organ.***

Bill Black is a practicing dentist in Chambersburg, PA. He has a life-long interest in Wurlitzer band organs. His collection includes Wurlitzer styles 105, 125, 146, 153, 165 and a Caliola.

COAA Volunteer Opportunity: "Member Communications"

COAA members communicate in a variety of ways: privately, by personal visit, telephone, e-mail and letter; communally at the seasonal organ rallies; and also via the quarterly issues of the ***Carousel Organ***. Between these events there's a lot of activity in everyone's lives, much of it "of the moment," with a brief life. Important family life events that interest the membership in general need to be shared rapidly. Often there are other news items that do not meet the "permanent" publishing criteria of the journal, but do merit distribution.

The COAA leadership seeks a volunteer that would be willing to serve as a collection point for these pieces of "people" news, and then determine a suitable means to distribute them periodically and rapidly, as necessary, by e-mail, or perhaps by establishing a "blog."

The purpose is not to host a "chat room," provide for technical services, forward "spam" and jokes, or serve as a collector's exchange. It's to facilitate rapid dispersal communications between COAA members as people, to share joys and sorrows, and to keep us closer together when we're apart. It's to build and reinforce COAA membership as "community." There would be no additional fee, only a willingness to share and receive news.

If you have a desire to serve in this new role, which can be done in the comfort of your own home, please submit your name and e-mail address to President David Wasson (814-833-8586 or trudy578@adelphia.net). You'll need some basic computer skills, perhaps a willingness to learn a few more, and have a desire to volunteer some time and talent to communicate with others. The person selected will play a pivotal role in formulating and designing the policy, methodology and means of communication utilized.

Being involved always enhances your experiences. Please consider this new opportunity to expand one of COAA's strengths, mutual appreciation and enjoyment of each other. Thank you.

COAA Board

COAA *Classifieds*

For Sale: **deKleist Style 155** "Monster" band organ, plays 87-key BAB rolls, $50,000 or best offer; 46-key Limonaire playing Wurlitzer 125 rolls, $28,000 or best offer. Gordon Forcier, (320) 558-9271 or email organgrinder48@aol.com

Wanted: Who has or knows for sale: **German carousel organs** from Ruth, Bruder, Gebr. Richter or Wellershaus, in any condition? Contact Paul Pals, Koelmoer 14, 6372 ME. Landgraaf, The Netherlands or email paulpals@yahoo.com.

For Sale or Trade: **Weber Unika** with 50 rolls, $55,000.00. Joe Uhler, Box 126, Ingomar, PA 14127. (724) 940-4331

See page 39 for COAA *Classifieds* rate information.