

Fairy-tale Organ

Richard and Mary Ann Hujar

Our organ is called the Fairy-tale Organ. How appropriate because it was a fairy-tale that we were finally able to locate and have built this beautiful organ.

We first saw the organ in a video at Frank and Hope Rider's home in 1996. Frank had taken the video when they were in Waldkirch, Germany, during the Orgelfest. Rich and I both decided we would love to add it to our collection. So on the last Bumbling Bruder trip led by Ron and Mary Jo Bopp we started our quest.

After arriving in Waldkirch, Germany, with our group we went searching for the builder of this organ. At this point in time we didn't even know what it was called and if the person would be at the Orgelfest. We didn't have any luck the first day and thought it just wasn't meant to be.

On the second day we visited the Elztalmuseum. We met up with Liz Barnhardt who suggested we visit the upstairs, as there were lots of beautiful glass and antiques. Upon arriving at the top of the stairs there was Hans (Hansjörg Leible) playing the "Fairy-tale Organ." What a wonderful surprise to see him. We introduced ourselves and told him that we had been searching for him throughout Waldkirch. We immediately wanted to place an order for the organ.

Unfortunately, the wait for the organ we were told would be three years as he already had several orders ahead of ours. We had waited so long and three years didn't seem that long. So we ordered and waited. To our surprise he delivered it in two years and also visited us with his lovely wife, Stefanie, and two boys this past summer.



Figure 1. A frontal view of the Fairy-tale Organ.

The fairy-tale automaton organ comes in two styles, the European Medieval and 1001 nights models. This article describes the 1001 nights version.

The barrel organ is housed in an attractive case (**Figures 1 & 2**) constructed of light wood with a fine grain which is lightly stained and finished with a smooth topcoat.

Numerous automaton figures are set in front of a background of buildings whose cylindrical structures with pointed dome roofs are reminiscent of images of 1001 night fairy-tale stories. The list of automatons include the princess and frog, the prince slaying the dragon, the servant fanning the king, the boy striking a bell, the bird singing, the stork clacking its beak, the sudden appearance and disappearance of a ghost and all set against a revolving sky background. These actions are either continuous while cranking the organ or initiated by action of the moving organ barrel.



Figure 2. A side view of the Fairy-tale Organ.

An array of twenty-one stopped flute pipes encompassing two octaves are seen above the group of automaton figures. An interesting touch is the flute pipe stops are shaped as pointed domes. A second rank of twenty-one pipes is located behind the first rank. The front top board is decorated with carvings of birds perched on tree branches. A crank that operates the barrel organ and automaton figures is located behind the organ case.

Playing the organ is quite an enjoyable experience. It is cranked effortlessly as it produces wonderful music accompanied by the actions of the automaton figures. Most of the songs selected for this organ are delightful old folk songs from Europe with one song originating in America. Each song plays for 40 seconds.

All the music playing on the organ is a result of excellent arranging by talented musicians. All seven songs on the barrel organ can be played in succession without having to mechanically operate any levers. One of the neat features of the barrel organ is that at the completion of each tune, the barrel automatically shifts and the next tune can be played with operation that is similar to cylinder music boxes.

Hansjörg Leible, the builder of this organ, generously provided the many fine photographs, detailed motion diagrams of the princess automaton, sound effects and movement assembly with individual features identified, and the brief description of the fairy-tale organ in table form that are exhibited in this article.

The construction of the barrel organ uses the traditional methods that are summarized in **Table 1**.

Construction of the Fairy-tale Organ	
Pin-Barrel	has seven tunes and a mechanism that changes the position of the pin-barrel after each tune.
Song-Indicator	the hand shows the title of the tunes (Figure 3).
Key Frame	plays 34 keys (six of which activate the automaton figures and sound effects).
Sound Capability	24 tones, two octaves plus F-sharp, E-Flat and B. C, F and G bass have octave support.
Two Registers	one of which (the octave) is controlled by the barrel. There is a total of 48 pipes.
Double Acting Bellows	four chambers and reservoir of 80 mm WS air-pressure (Figure 4).
Wind Chest	with slider to turn on and turn off air supply to one rank of pipes plus outputs for movement of figure and sound effects.

Table 1

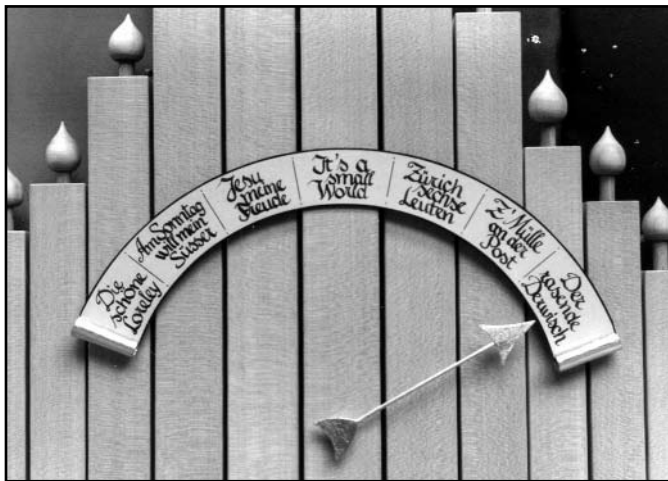


Figure 3. The tune indicator which reveals one of seven tunes which is currently playing.

The princess throwing the golden egg (golden ball) to the frog poised on the edge of the wishing well is the automaton organ's central attraction (**Figure 5**). Through a cleverly designed control mechanism located directly under the princess and frog, a sequence of precise movements are executed by the central figures that are entertaining to watch.

As the organ is cranked, the princess holding the hen moves her right hand under the hen where she waits for the hen to lay a golden egg in her hand. Upon receiving the egg, she shifts her hand from under the hen, bends her body forward at the waist, and nods her head prompting the frog to open its mouth. As the frog opens its mouth, the princess tosses the golden egg into the frog's open mouth whereupon the frog closes its mouth and swallows the egg. As long as the organ is

cranked, these movements repeat itself. We are reminded about an old fairy-tale where wicked witch casts a spell on a handsome prince and turns him into a frog. The frog continues to wait for a kiss from the princess so that he can return as a prince. But alas in this story, the frog remains a frog for she has her prince charming busily engaged in slaying the dragon.



Figure 4. The back side of the Fairy-tale organ case reveals the bellows and reservoir at the bottom and the pin-barrel at the upper middle portion of the case. Note the artistic crank handle.



Figure 5. A detailed photo showing the Princess, hen and frog.



Slaying of the dragon by the prince (Figure 6) is a formidable task requiring this action to be repeated. Through the action of a key on the organ barrel, the prince bends his body back at the waist and holding the

Figure 6. The Prince slaying the dragon.

sword with two hands moves his arms to raise the sword. Then his body moves forward at the waist and lowers the sword to strike the dragon, which is accompanied by sound effects of a cymbal being struck. In an independent action, the dragon opens and closes its mouth and produces a growling sound from a sound-effects generator. Meanwhile the king with his servant (Figure 7) is seated on the balcony amused by what is happening below.



Figure 7. The King being tickled by his servant.



Figure 8. Behind the fore-mentioned Prince is a boy striking a bell. Note that under the bell is a small door with a blue bird.

A servant slowly fans the king with a feather fan as the king moves his head around and away from the servant. As the king turns his head toward the servant, the servant rapidly moves the feather, tickling the king's nose. This action continues during the cranking of the organ.

Adding to the charm and whimsy of this music machine are the four automaton characters that are individually activated at appropriate times by keys on the organ barrel. A boy (**Figure 8**) holding a hammer straddles the balcony adjacent to the bell tower. As the boy strikes the bell with a hammer, the bell emits a bright sustaining ringing tone. On the left side of the organ, a small door opens in the tower and a blue bird comes out to flap its wings and bob its head. The sound effects generator provides a twittering whistle bird sound.



Figure 9. The stork resides in the tower and will rapidly open and close his beak.

A stork (**Figure 9**) residing in the tower on the right side of the organ rapidly opens and closes its beak accompanied by a clattering sound produced by boards slapping together.

Occasionally a white ghost with a green face, bulging white eyes and grotesque grin makes an appearance from behind the tower, sliding across the balcony and returning to a secluded hiding place. A wailing tone produced by a piston whistle can be heard from the sound effects generator when the ghost makes its appearance.

Behind an array of organ pipes in front of the organ is a revolving sky painted on a silk cloth background which continuously changes as the organ is cranked. On the silk screen are painted stars, a crescent moon, a flying bird, the sun and Aladdin with his magic carpet on a sky that changes from night to daylight. As daylight appears a bright colored bird appears followed by a large bright sun in a daylight sky. The screen continues to revolve with Aladdin flying on his magic carpet as daylight disappears into darkness. The nightfall displays a star-studded sky and a crescent moon. Before daylight arrives again, a colorful flying bird appears at the break of day. The last motion described is the golden crescent moon perched on top of the pointed domed roof that revolves when the organ crank is turned.

The features of the automaton portion of the fairy-tale organ are listed in **Table 2**. All sound effects and automaton movements are produced by the mechanism located in the bottom of the organ case. Each of the functions is identified in **Figure 10** labeled view from below. All the individual components are masterfully hand crafted and neatly arranged at the base of the organ.

The princess body mechanism photograph (**Figure 11**) reveals the many parts and the mechanical complexity required to perform the ball throwing motion. Additional complexity is shown in the princess control mechanism photograph (**Figure 12**). It provides a view of the curved templates that move the body and arms of the princess and the frog's mouth as well as the transport tube that channels the golden eggs to the hen held

by the princess. The motion diagram (**Figure 13**) describes the steps necessary to execute the complete ball throwing cycle. Shown in the motion diagram are seven curved templates that are accurately shaped to control the automaton. A pictorial view of the transport tube that carries the golden balls and the pneumatic required to provide the air-stream that propels the ball to the hen is included in the figure. The mechanism achieves the goal of providing a fascination dis-

Automaton Featured in the Fairy-Tale Organ

Figures in constant motion:

1. King—turns his head from left to right
2. Servent—fans the king and tickles his nose when the king turns towards him.
3. Princess—throws the ball into the frog's mouth
4. Sky—revolves
5. Crescent Moon—rotates above the pointed dome

Figures controlled by the barrel (briefly, and compatible with the song)

1. Dragon—roars, opens its mouth (reed pipe)
2. Bird—twitter; a small door in the tower opens; the bird looks out, flaps its wings and opens its beak (pipe with wheel which produces a quavering sound)
3. Stork—rapidly opens and closes its beak (boards rapidly hitting each other)
4. Prince—strikes the dragon with his sword (cymbal)
5. Ghost—appears suddenly from behind the tower and wails (piston-whistle)
6. Young boy—strikes the bell with a hammer (bell)

Table 2

play of an articulate princess in delivering a golden egg into the frog's open mouth. Amazingly, the egg follows the same trajectory each time and never ever misses the mark.

The fairy-tale organ exemplifies the fine craftsmanship in every aspect of the barrel organ and automaton building from the musical quality of the organ, fine finish of the instrument case, the intricate design of the automaton actions, the fine finish on all individual components and precise assembly for a completed product. Building of the organ requires approximately ten months labor for one person. A number of people lent their talents to producing this instrument. Hansjörg (Figure 14) is pinning the barrel. His wife, Stefanie, drew the original figurines, designs and sews their clothing and paints the figurines. She also paints the scenery (i.e. buildings, etc.), constructs and finishes the case. Frieder Lang and

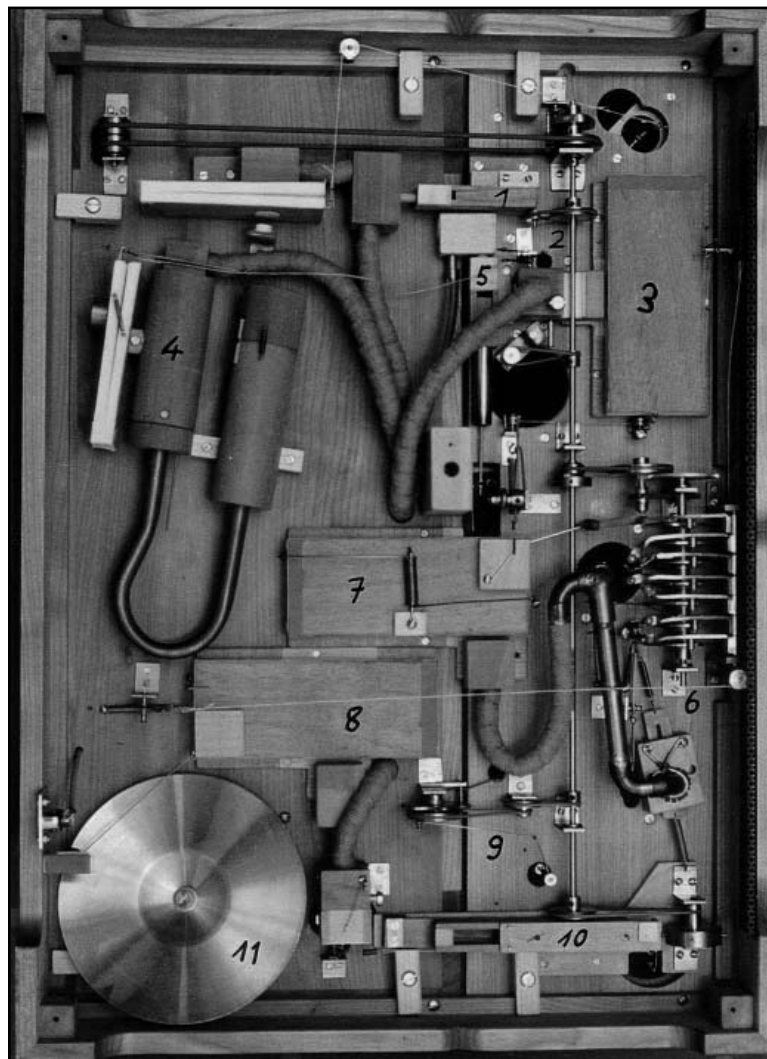


Figure 10. Legend: 1. twittering whistle (bird); 2. primary axle for continuous motion; 3. bellows for ghost; 4. dragon's voice; 5. piston whistle for ghost; 6. drive for princess; 7. bellows for ball transport; 8. bellows for prince; 9. movement for king and servant; 10. stork's beak-clapping sound; and 11. noise for prince.

Annegret Brake arranged the tunes for this organ. The skills of carving master Jochen Probst can be appreciated in the excellent workmanship found in the automaton carvings. Thomas Hülsmann provides the important duties of organ-builder and mechanic.

The automaton-organ weighs 27 kg. and measures approximately 25" in width, 17.75" in depth and 27" in height. Close examination of the instrument plus conversations with the builder reveals numerous construction details that add a bit-of-class to the instrument. Hansjörg has added a "touch-of-gold" to his creation. The golden balls (eggs) that the hen lays, the two gold balls that adorn the roof top above the king, the scroll ends of the tune indicator and tune pointer, the revolving crescent moon, and the tiny gold medallion on the prince's headband are embellished with masterfully applied gold leaf.



Figure 11 (left). Princess body mechanism.



Figure 12 (right). Complex princess control mechanism.

The tower bell, which was specially made in Switzerland, was turned on a lathe to produce the desired ringing tone. The hammer that the boy uses to strike the bell is specially heat-

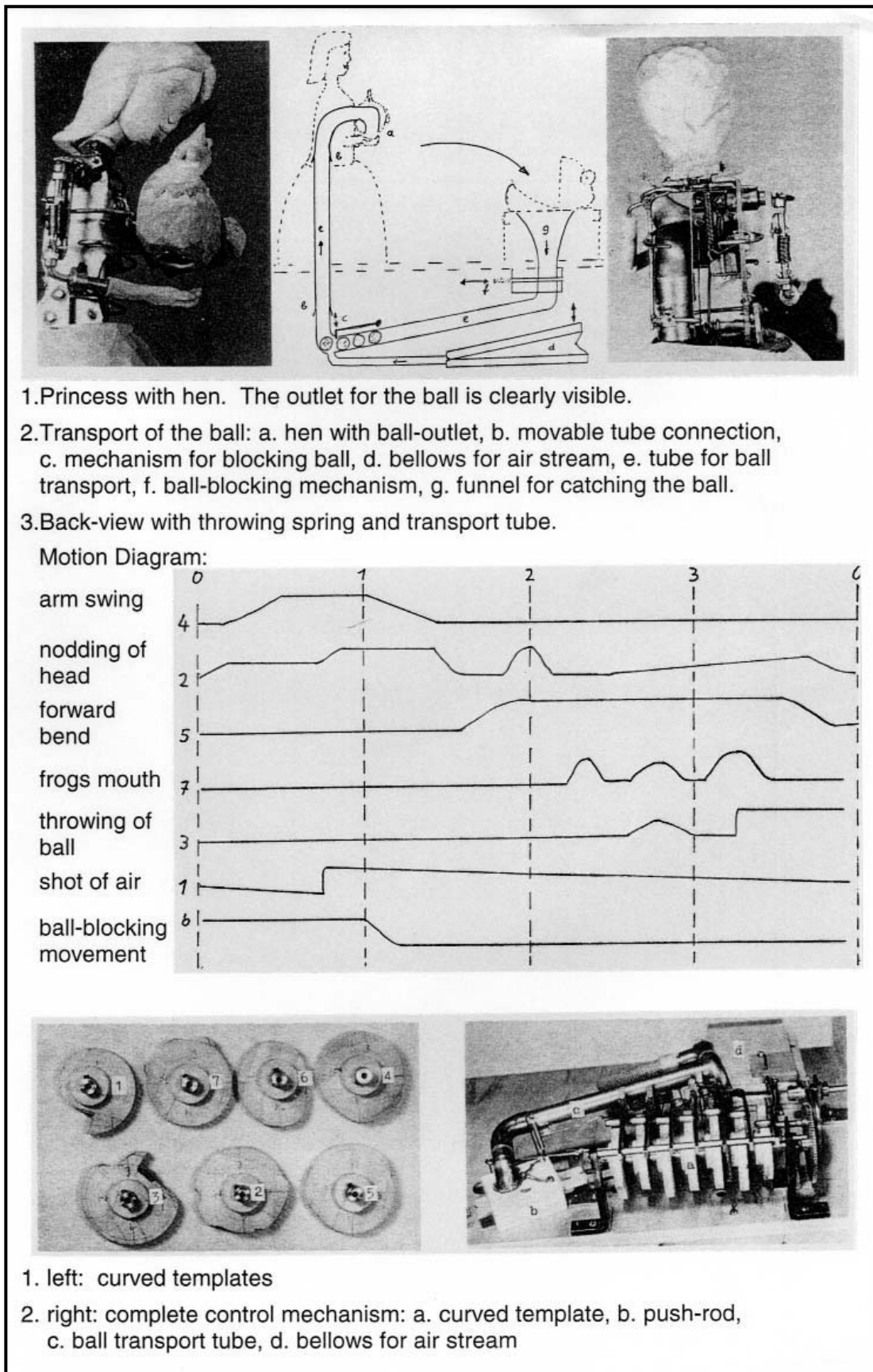


Figure 13. Motion diagram for the Fairy-tale organ. Seven templates show the curves necessary to obtain the movement of the automatons.



Figure 14. Hansjörg Leible pinning a barrel for a Fairy-tale organ.

treated. Upper bodies of both the princess and prince figures are fitted with sewn fabric costumes. In addition, the boy wears a fabric vest. These are but a few examples of the neat features of the organ. Included with the delivery of the organ is a comprehensive instruction manual for setting up the organ plus detailed directions including photographs for dismantling various instrument sub assemblies. Also procedures for maintaining the princess automaton motion and lubrication instructions are furnished.

Figure 16. Richard Hujar and Hansjörg pose proudly with the new Fairy-tale organ at home in America.



Rich and Mary Ann Hujar have been music box collectors for 22 years. Organ grinders are a favorite of Mary Ann and she and Rich frequently attend local organ rallies.



Figure 15. Stefanie and Hansjörg Leibel, along with Thomas Hülsmann with their finished product.

Three of the talented people, Stefanie, Hansjörg and Thomas pose for a picture (Figure 15) of the finely crafted organ before shipment to America.

Richard and Hansjörg pose (Figure 16) beside the new arrival during a summer visit

This instrument is the first fairy-tale organ to be acquired by a collector living in the United States. A web site has recently been established for anyone interested in other automaton-organ models designed by Hansjörg by accessing www.magic-mechanical-music.de.

Photo credits: Hansjörg Leible.