

# HOW TO RUIN a THEATRE ORGAN

by DAN BARTON

*The creator of the famed Barton theatre organ takes good humored pot shots at unschooled organ "experts" who attempt to improve on a tried and true product. In the light of his more than 65 years of pipe organ creativity, Dan speaks with the authority of a man who knows.*

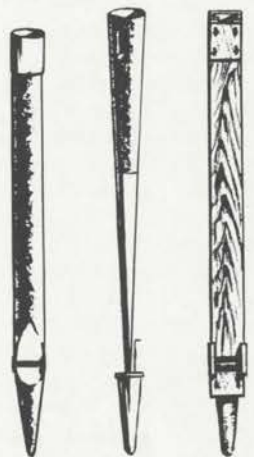
As a former theatre organ builder I am very grateful to the ATOE for what members have done in rescuing and restoring abandoned theatre organs.

During the past few years I have become acquainted with many enthusiasts and I know the great pride they have in restoring an organ to its original condition as to the sound and tonal quality that was built into it by the original organ builder. They enable people of the 1960's to hear the big theatre sound of the 1920's. A great many theatre organs are now being used for public concerts or for entertainment in private homes.

I am an old, irascible, retired theatre organ builder who built and installed theatre organs in the mid-West. I have several "gripes." The big one is about organ pipes and to make it more understandable I would like to explain how a rank of pipes is created.

The production of organ pipes combines the experience and skill of several artisans, all with years of experience in the art.

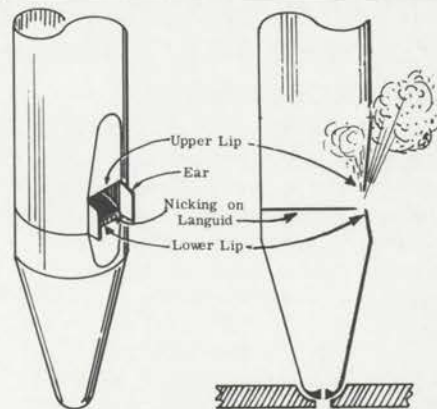
First is the designer, or architect, who originates the specification to fulfill a specific purpose. The specification must provide a proper ensemble for the entire organ and voices that combine in pleas-



Diapason (metal) Tuba (metal 'reed') Open Flute (wood)

ing combinations as well as solo stops. The architect specifies the kind of pipes to be used and designates the wind pressures.

Next, the head of the pipe shop lays out the scale, or size, of the pipes. For metal flue pipes he designates the proportion of tin, lead and zinc to be used as well as the wall thickness. He also states the width and cut of the mouth. In metal reed pipes he establishes the thickness, size and mixture of the metal used for the barrel, the size and thickness of the



Metal flue pipe

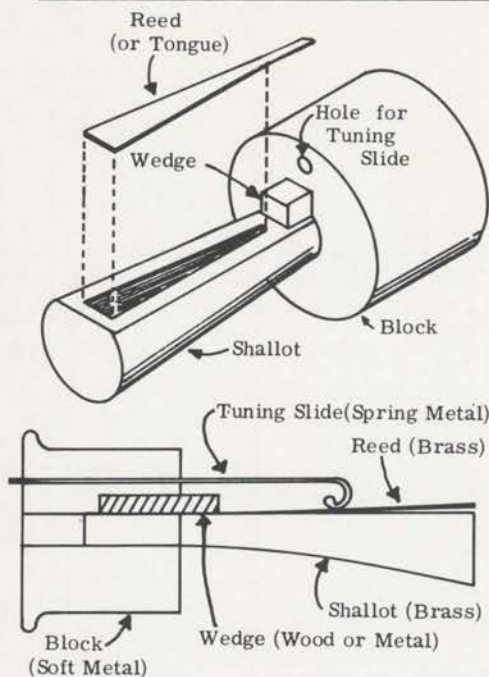
reed tongue, the proper shallot size and the size and shape of the opening in the shallot to insure the correct voice. In wood pipes he determines the thickness of the walls and shape of the block and beard, which form the mouth.

Next comes the voicer who represents about ten years work in a pipe shop before he becomes proficient in the art of pipe voicing. He makes the pipe speak and gives it the proper voice.

The final result is a rank of organ pipes that will blend properly with the ensemble in combinations, or stand out as a solo stop with its own individual tonal characteristic. Proper volume is important, but even more important is the tone quality or timbre which must be pleasing to the listener.

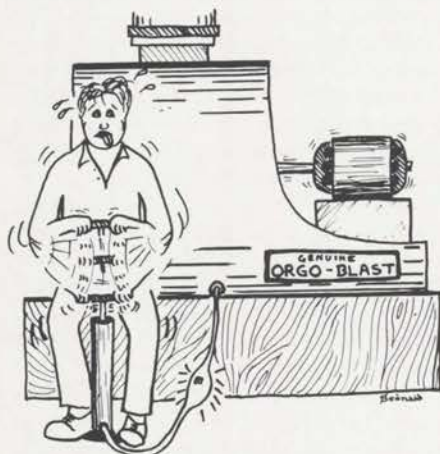
Just a word about the use of high wind pressure to create great volume. With the proper pipe scales and arrangement of the mouth in flue pipes, or the size of reed tongues and shallots in reed pipes, this is possible. But conversely, by changing the scale of the pipe and a change in the speaking portions, the volume can be reduced to a very moderate level, even when blown with high pressure.

Hope-Jones built many church organs in England and the United States, many of them installed in moderate-size churches where great volume would have been a detriment instead of an asset. There is no record of his theatre organs in England, and only a small number from the Elmira factory before Wurlitzer took over. It appears that one drawback Hope-



**Reed pipes sound generating mechanism**

Jones encountered in competing with English classic organ builders was the lack of a mixture. A mixture is a group of pipes consisting of 2, 3, 4 or more ranks of pipes tuned to partials of the prime tone—12th, 15th, 17th, 19th, etc.; many different arrangements are used by different classic builders. The mixture is actually an artificial method of reinforcing the harmonics formed in organ pipes. A mixture chest was not adaptable to unit construction, but Hope-Jones found that high pressure, especially in small scale string pipes, increased the harmonic build-up to a point where he felt no mixture was necessary. High pressure also gave the unit organ quick response to the action and prompt speech to the pipes. This was very much lacking

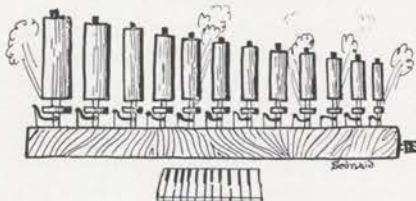


They devise ingenious methods of increasing wind pressure.

in low pressure classic organs. It is my opinion that greater harmonic development and prompt speech of pipes and fast action came ahead of volume in the development of the Hope-Jones organ.

Now for the first "gripe." A few theatre organ enthusiasts have become too "enthusiastic." They appear to have acquired more knowledge and know-how as to how a theatre organ should be voiced and built than all the theatre organ builders put together. They are self-appointed organ "improvers." They do things to theatre organs that practically ruins them. They brag that they "figured it out" themselves. Many have never set foot in an organ factory or pipe shop. Only a few have worked on Barton organs, but I suspect this idea of organ "surgery" can spread to other makes and territories. I am badly bugged to know how they got that way. Is it a delusion of grandeur? Do they take a magic pill that gives them information no organ builder had? Are they rock-n-roll nuts that put noise ahead of musical sound? Do I sound somewhat shook-up?

I do not believe these fellows perform this organ surgery with any intention of ruining an organ. I think it comes from their lack of knowledge of organ building and their being carried away by their ardor for the theatre organ, an obsession that does not stop when the organ has been restored to its original condition.



It's better to get steamed up over a real calliope rather than try to make a theatre organ sound like one, says Dan.

Their infatuation gives them a drive to keep doing work on an organ. This, combined with little or no knowledge of the science of organ building and pipe production, creates the organ "improver" who does terrible things to a theatre organ.

I am thinking of a 3-17 Barton that I heard and inspected after it had been restored and it sounded as good as it did when I attended the opening over 40 years ago. I recently heard this same organ after it had been "operated" on by an organ "improver". I could not believe it was the same organ. On several of the larger ranks the wind holes in the pipe toes had been enlarged, the upper lips cut up and the pressure increased from 10 to 25 inches. On the large reeds

the curves of the tongues had been increased and the pressure raised from 10 to 25 inches. To get increased static pressure the "improver" had a second blower connected to the intake of the original blower so the wind was at an increased pressure before the original blower started to raise the pressure again. The result is described in one word—*CALLIOPE!* The volume was increased by about 50% on these ranks but the musical quality was entirely gone; no smoothness or



The self-made organ surgeon may possess a variety of skills.

texture, the tone was strident, harsh, raucous and overpowering. The Posthorn sounded like an old-fashioned steam locomotive blowing its whistle coming into town on a cold winter night. When the full organ was played the ensemble was entirely out of balance. The small reeds and flue pipes will not respond to this kind of organ "surgery."

Can you imagine the Mormon Tabernacle Choir with its variety of voices, soprano, contralto, tenor, baritone and basses, with the baritones hollering at the top of their voices and all other voices on correct pitch and proper volume, or a symphony orchestra with the brass section playing twice as loud as it should? The pipes with the cut-up mouths and enlarged holes in the toes were just junk; they never could be restored to proper playing condition.

In the concluding installment, Dan Barton will continue his campaign to discourage tampering with "the tried and true" with some extra horrible examples of organs he feels have been mutilated. He will again discuss raised pressures, cut-up flue pipe lips and over-bent reeds—also pipe swapping between organs.