

London Domes (London Hearing Horns)

The popular yet unobtrusive hearing aids of yesteryear

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Introduction

London Domes, also known as London Hearing Horns, were popular hearing aids from their beginnings around 1850 right up until their demise around 1930. Their popularity derived from their small size. Thus they could easily be carried in a pocket. However, their real appeal was that generally they were small enough so that they could be mostly hidden in a cupped hand when you were using one. That way, no one would know you had a hearing loss.

The London Dome style of ear horn was named because of its similarity in shape to the dome of St. Paul's Cathedral in London, England (built 1675 to 1720).

Design of London Domes

There were many variations in London Domes, but there were three basic design principles followed by all of them.

First, the shape of the reflector was parabolic, resulting in a resonating dome. This parabolic design ensured that all the sound waves entering the mouth of the dome reflected off the dome-shaped parabolic reflector in such a way that it directed the sound waves to a point just below the center of the dome and into the mouth of the ear tube (Fig. 1).

Second, the flared end of the sound tube ended exactly at the spot where all the sound waves were aimed—just below the center of the dome.



Fig. 1. The sound tube is visible through this translucent faux tortoiseshell London Dome. You can see the flared end of the sound tube just below the top of the dome where it catches the sound waves as efficiently as possible.

Thus, it efficiently collected the sound waves and directed them down into the sound tube. The tapered sound tube concentrated the sounds more and more as they traveled to the ear tip. Thus London Domes achieved considerable gain in the speech frequencies between 300 Hz and 2,000 Hz while still maintaining a relatively small size.

Third, the sound tube was in a “U” shape giving more length to concentrate the sound signals.

The sound tube began just below the center of the dome (Fig. 1) and went almost to the mouth of the hearing aid where it made a U-turn out through the wall of the dome. It then followed along the outside of the dome to its top then made a right angle turn to the ear tip as shown in Fig. 2.



In a few Domes (mostly

Fig. 2. The ear tip typically turned out 90° on the same side as the tube came out of the dome's body.

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Fig. 3. In some London Domes the ear tip went over the top of the dome to the opposite side as with this German dome.

in French and German models) the ear tube passed over the top of the dome so the ear tip was on the opposite side of the dome. (Fig. 3).



Fig. 5. In this fancy London Dome, the ear tip is quite a bit higher than the top of the dome.

were small. Some were as large as the big ear trumpets. Fig. 6 shows an example of a large London Dome from about 1890. It measured about 15½" long.

Generally, the ear tip was about even with the top of the dome or a bit higher (Fig. 4).



Fig. 4. In this brass London Dome, the ear tip is about level with the top of the dome. Generally, the ear tip was just a bit higher than the top of the dome.

Less commonly, the ear tip (and tube) extended well above the dome (Fig. 5).

Not all London Domes



Fig. 6. This London Dome is the same size as other full-size ear trumpets of the time. This is one of the few long ear trumpets that used the London Dome design principles.

Generally, London Domes ranged in size from tiny ones with 2" high domes (Fig 7) up to the large ones, typically referred to as "Grand Opera Domes". The greater the person's hearing loss, the larger-



Fig. 8. Shown above are 5 London Domes ranging in size from left to right—4", 3¾", 3", 2½" and 2".



Fig. 7. This tiny London Dome is only 2" tall. It easily hides in a cupped hand so no one can readily see that you are using a hearing aid.

sized hearing aid that you were advised to use. Popular sizes for London Domes were 2¾, 3½, and 3¾ inch heights, with diameters of 2, 2¼ and 2½ inches at the largest part of the bell (Fig. 8).

The largest Grand Opera Dome was 9½" tall and weighed almost 2 pounds. It was constructed of black enameled brass. This Grand Opera Dome was unique in that it had a handle on the opposite side from the ear tube



Fig. 10. This is an example of a common, inexpensive London Dome. It is made of brass painted black.

were usually painted black (Fig. 10). Black was the most common color for pre-electric hearing aids, probably because this made the instrument less conspicuous against dark clothing." More expensive London Domes were made of polished brass or of sterling silver and were ornately engraved (Fig. 11).

London Domes in Catalogues

In the catalogs from about 1890 to 1920, most London Domes were called London Hearing Horns.

The Montgomery Ward catalog of 1894 described London Domes thus, "London Hearing Horns: designed for those who are moderately deaf, as they can easily be carried in the pocket and concealed in the hand when in use. Finished in either black or nickel plate and in sizes from 2½" to 4" in height. Price each \$2.50.

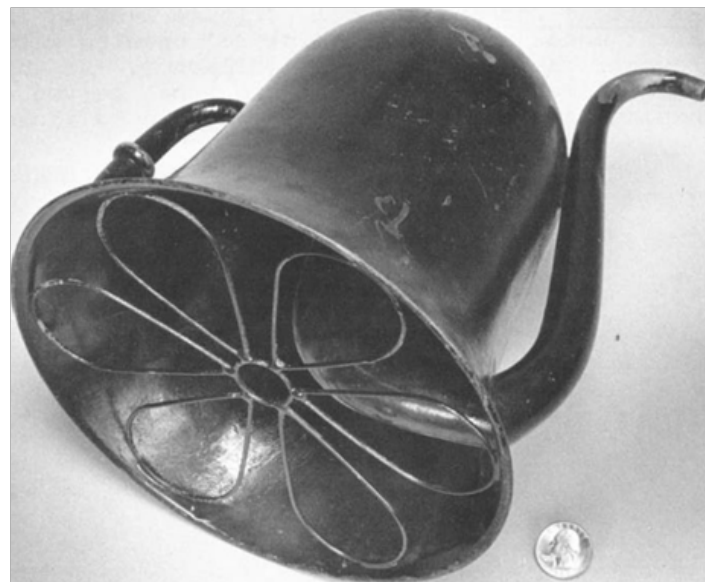


Fig. 9. This giant Grand Opera Dome had a bell that was 9½" high and weighed almost 2 pounds. The ear tube is on the right and the handle to hold it is partially hidden on the left.

so you could hold it (Fig. 9). It was made about 1850 by F. C. Rein in London. (Pity the poor person that had to hold a 2-pound hearing aid to their ear while listening to a full-length opera!)

Most London Domes were made of brass and painted black. "The less expensive dome models were made of thin metal, either covered with vulcanite (hard rubber), or made of brass, in which case they



Fig. 11. This is an example of an elegant, intricately-engraved sterling silver London Dome. Such London Domes are rare and thus are very expensive today.

Here is the description of London Domes in the William Armstrong & Co. of Indianapolis, IN "Catalog

of Surgical Instruments" put out in 1901. "The most popular and efficient trumpet is the London Hearing Horn which is constructed on the best acoustic principles, with the paraboloid dome and answers admirably for the moderately deaf, as it can be easily



Fig. 12. This is an example of a nickel-plated London Dome.

carried in the pocket, and concealed in the hand when in use. We have them in "dead black", nickel-plated (Fig. 12) and aluminum, and in sizes ranging from 2½" to 4" high.

The plated ones are highly polished and present a neat and handsome appearance, those made of aluminum are very light, while the "dead black" are preferred by those who wish to conceal



Fig. 13. This is an example of a 4" high Grand Opera Dome made by George Tiemann & Co. of New York, NY about 1901. It was unusually heavy for its size and weighed 2 to 3 times more than other London Domes of equal size.

them, and desire to make as little show as possible with them. They are highly prized by those using them."

They also sold Grand Opera Domes. In this same catalog they described

them thus, "The Grand Opera Dome is an instrument made on scientific principles, of hammered bell metal, all parts brazed, covered with jet black insulation. The instrument can be used without attracting undue attention, and most pleasing results are produced" (Fig 13).

Not to be outdone, the Sears Roebuck catalog of 1902 had this entry, "Hearing Horns: These horns are exactly the same as those advertised by many dealers at prices ranging from \$8.00 to \$15.00 each.

These London Hearing Horns are constructed of light metal upon an entirely new principal. They may be carried in the pocket and when in use are easily concealed in the hand. They are designed for the use of those who are only moderately deaf and enable one to hear not only an ordinary conversation but sounds at a distance as well, making them suitable for use anywhere—at home, in church, or public entertainments (Fig 14)."

Their prices for these London Hearing Horn were \$1.29 for their medium-sized 2½" tall horn and \$1.35 for their larger 4" tall horn.

Charles Lentz & Sons of Philadelphia, PA in their 1911 catalog "Surgical Instruments - Hospital Supplies" listed five sizes of London Hearing Horns and their prices.

Size 1: 2½" tall \$3.50.

Size 2: 3" tall \$4.00.

Size 3: 3½" tall \$4.00.

Size 4: 3¾" tall \$4.50.

Size 5: 4" tall \$4.50.

The catalog described them thus, "This hearing instrument is nearly universally used by those who are in any manner troubled with deafness. It is made on scientific principles, of bell metal, elegantly finished and either coated in dead black or nickel

Hearing Horns.



These horns are exactly the same as those advertised by many dealers at prices ranging from \$8.00 to \$15.00 each. These London Hearing Horns are constructed of light metal upon an entirely new principle. They may be carried in the pocket and when in use are easily concealed in the hand. They are designed for the use of those who are only moderately deaf and enable one to hear not only an ordinary conversation but sounds at a distance as well, making them suitable for use anywhere—at home, in church, or public entertainments. Made in Two Sizes, with Black Oxidized Finish.

No. 20R420 London Hearing Horn, medium size. 2½ inches in length. Price, each.....\$1.29
If by mail, postage extra, 5 cents.

No. 20R421 London Hearing Horn, large size, 4 inches in length. Price, each.....\$1.35
If by mail, postage extra, 8 cents.

Your money will be promptly refunded if the horn does not give entire satisfaction.

Fig. 14. The Sears Roebuck catalog of 1902 had this ad for London Domes.

plated, and is of such size that it can scarcely be seen when held in the hand.

The largest size is especially recommended for use in church, lecture hall, etc, as it facilitates the hearing at long distances with comfort."

In this same catalog. They also list three Grand Opera Domes for \$4.00, \$4.50 and \$5.00 respectively.

Their description of these Grand Opera domes reads, "Made of hammered bell metal, and coated with a jet black insulation thoroughly baked on inside and outside. This insulation presents the advantage that it excludes the roaring or buzzing noises experienced in most hearing instruments."

London Domes were still advertised well into the 20th century. For example, the Montgomery Ward catalog of 1922 had this ad, "London Ear Phone. The London Ear Phone enables the moderately deaf to hear sounds even from a distance. Dull black sound magnifying chamber with the ear piece. Made of lightweight metal. Size 3¼" \$1.89. Size, 4" \$1.98" (Fig. 15).



London Ear Phone

The London Ear Phone enables the moderately deaf to hear sounds even from a distance. Dull black sound magnifying chamber with ear piece. Made of light weight metal. Shipping weights, 6 and 8 ounces.

53 C 4238—Size, 3¼ inches.....\$1.89
53 C 4239—Size, 4 inches.....1.98

Fig. 15. London Dome ad in the Montgomery Ward catalog of 1922.

London Dome Grills

London Domes, just like all other hearing aids came in a variety of styles and prices. Some were just plain, utilitarian-looking devices. Others, as shown previously, were quite ornate. One place where you particularly notice this is in the grill at the mouth of the dome.

A few London Domes did not even have a grill such as this Grand Opera Dome. As a result you could



Fig. 16. This is an example of a Grand Opera Dome with no grill. Note the bottom of the ear tube visible in the bottom left.

readily see the ear tube inside the dome (Fig. 16).

By far the vast majority of London Domes had a standard grill

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Fig. 17. This is an example of a common, plain London Dome with a brass grill painted black. The sounds entered through the rather large holes.

The next step up in fancy grills was a wire grill, like this Hawksley London Dome (Fig. 18).



Fig. 18. This is an example of a black brass London Dome with a bit fancier grill composed of wire painted black. The black paint is now mostly missing.



Fig. 19. This is an example of a more elegant grill design in the shape of a star-burst or flower. It was used on a nickel-plated London Dome.

composed of a series of round holes. This was the grill of choice for the brass London Domes painted black (Fig. 17).

The London Domes made of faux tortoiseshell generally had intricate grill designs (Fig. 21).

When some faux tortoiseshell London Domes were backlit by a light or the sun, they exploded in stunning



Fig. 20. This elegant filigree design was used on an expensive sterling silver London Dome.



Fig. 21. This intricate grill design was used on some faux tortoiseshell London Domes.



Fig. 22. Another faux tortoiseshell London Dome with the same intricate grill design as the above example, but with the light behind it bringing out its beautiful coloring.

Another fancier pattern was a flower or star-burst design on the grill (Fig. 19).

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had elegant grills in silver filigree (Fig. 20).

Bio:

Neil Bauman, Ph.D. (Dr. Neil) of Stewartstown, PA is a hearing loss coping skills specialist, researcher, author and speaker on issues pertaining to hearing loss. No stranger to hearing loss himself, he has lived with a life-long severe hereditary hearing loss. He is the founder and CEO of “The Center for Hearing Loss Help” (<http://www.hearinglosshelp.com>). Through the Center, he provides education, support and counsel to hard of hearing people. He is a prolific writer and is the author of eleven books and more than 800 articles on subjects related to hearing loss and other ear conditions. A dynamic speaker, Dr. Neil travels throughout the USA and Canada speaking on topics related to hearing loss.



Dr. Neil is also the owner/curator of “The Hearing Aid Museum” (<http://www.hearingaidmuseum.com>), the largest on-line hearing aid museum in the world. Presently, the museum contains more than 1,330 different hearing aids and related items.

The Hearing Aid Museum



49 Piston Court
Stewartstown, PA 17363 USA
Phone: 717-993-8555
FAX: 717-993-6661
neil@hearingaidmuseum.com
<http://www.hearingaidmuseum.com>

Neil G. Bauman, Ph.D.
Curator

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