

INNOVATIONS IN AMERICAN SNARE DRUMS

1850 - 1920

by

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Table of Contents

List of Tables	iii
List of Illustrations	iii
Acknowledgments	v
Introduction	1
Terminology	6
Chapter One: Mid-nineteenth-century American Side Drums	9
Chapter Two: European Innovations and Their Influence on American Drums	30
Chapter Three: American Innovations and Separate Tension Drums	50
Chapter Four: The Emerging American Drum Industry	68
Catalog of Side and Snare Drums	83
Index of Makers and Manufacturers Locations	203
Appendix: United States Snare Drum Patents, 1850 - 1920	204
Bibliography	211

List of Tables

Table 1: Mid-nineteenth-century American Side Drum Dimensions	17
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List of Photos

Chapter One

Photo 1: NMM 2814	11
Photo 2: NMM 10,040	12
Photo 3: NMM 10,039	13
Photo 4: NMM 2866	14
Photo 5: NMM 10,141	16
Photo 6: NMM 2866 Eagle painting	19
Photo 7: NMM 10,039 Tack design	20
Photo 8: NMM 2866 Tack design	20
Photo 9: NMM 10,041 Hook through which the rope passes	23
Photo 10: NMM 906 Snares held in place by rim	24
Photo 11: NMM 10,042 J-hook strainer	25
Photo 12: NMM 10,043 Leather strap holding snares	26
Photo 13: NMM 10,091 Knob over which snares are tied	26

Chapter Two

Photo 1: NMM 10,293	32
Photo 2: 3 rd U. S. Infantry Band, Fort Hays, Kansas, ca. 1872	34
Photo 3: NMM 10,132 Banjo rod	35
Photo 4: Boucher banjo metal rod tension system	37
Photo 5: NMM 407	42
Photo 6: NMM 2876	44

Chapter Three

Photo 1: Percussive Arts Society (PAS) No. 1995-10-02, ca. 1895	58
Photo 2: PAS Duplex drum badge	59
Photo 3: NMM 9512 Duplex drum with sleeves mounted to rims	59
Photo 4: NMM 9512	60
Photo 5: NMM 10,143	63
Photo 6: NMM 2875	63
Photo 7: NMM 10,143 Snare mechanism opposite strainer	63

Chapter Four

Photo 1: NMM 804	69
Photo 2: NMM 804 Thumb-rod screw	70
Photo 3: NMM 10,091	71

Photo 4: NMM 2969	75
Photo 5: NMM 2969 Strainer	75
Photo 6: NMM 1056 Utility model trainer.	77
Photo 7: NMM 227	77

List of Figures

Chapter One

Figure 1: NMM 10,039 Design formed by tacks.	21
Figure 2: NMM 2866 Design formed by tacks.	21
Figure 3: Zimmerman's patent drawing	23
Figure 4: H. C. Barnes catalog strainers.	25

Chapter Two

Figure 1: Drawing from Ward 1837 patent	31
Figure 2: Drawing from Ward 1837 patent	32
Figure 3: Drawing from Leedy catalog H,1916.	33
Figure 4: Drawing from <i>Manuel général de musique militaire</i>	32
Figure 5: Drawing from 1867 Adolphe Sax advertisement	34
Figure 6: Boucher advertisement ca. 1855	36
Figure 7: <i>The Banjo Player</i> by William Sidney Mount, 1856	38
Figure 8: Drawing from John F. Stratton & Co., catalog between 1881 and 1885.	41
Figure 9: Drawing from Johannes Link catalog, ca. 1895	42
Figure 10: Drawing from 1881 Lyon and Healy catalog	43

Chapter Three

Figure 1: John Dermond patent drawing.	53
Figure 2: Johnson Mason patent drawing.	55
Figure 3: Thomas Rawson patent drawing	56
Figure 4: Emile Boulanger patent drawing.	57
Figure 5: Carl Fischer catalog, 1896.	59
Figure 6: Adolph G. Soistmann and J. W. Pepper patent drawing.	61

Chapter Four

Figure 1: Drawing from Trommel Fabrik Weissenfels, ca. 1895	73
Figure 2: William F. Ludwig patent drawing	74
Figure 3: Drawing from Ludwig and Ludwig catalog, 1912	76

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Introduction

Drums with snares have been used in Western music since the introduction of the medieval tabor, a drum with a snare or snares stretched across the struck (or batter) head. Iconographic representations of the drum appear as early as the thirteenth century in Spain and England.¹ The predecessor of the tabor may have been the Arabic *ghirbāl*, which dates back at least to the seventh century.²

The tabor is a small instrument used for accompanying dancing and is still used in Basque Spain.³ The tabor was always played together with a pipe. A single player would play the small, flute-like instrument with one hand and beat the tabor with a stick in the other. A larger version was associated with military music during the Middle Ages and Renaissance.⁴ In England, the military instrument became known as the *drome*, *dromme*, or *drume*.⁵

The side drum, named because it hangs at the player's side, can first be documented about the end of the fifteenth century.⁶ Larger than the tabor, with snares on the bottom head, the drum was played by sticks in both hands and allowed for more complicated rhythms. In *Orchésographie* by Thoinot Arbeau (1588), a side drum measuring about two-and-a-half French feet in diameter, with a similar depth, is shown.⁷ Side drums also appear in the important musical treatises of Michael Praetorius (1619)⁸ and Marin Mersenne (1636).⁹

The side drum came to the Americas with the early colonists. In 1635, New Hampshire is known to have had at least two drums used to train the

militia.¹⁰ By the eighteenth century, side drums were used in both the French and Indian War¹¹ and the American Revolution.¹²

This thesis traces the development of the side drum in the United States from the mid-nineteenth century to the early twentieth century. The side drum saw significant and dramatic changes during this period of time. Drums built in the middle of the nineteenth century were quite similar to drums that had been in use in the United States and Europe for more than a hundred years. After the American Civil War (1861-1865), European influences and American innovations transformed the side drum into a modern, mass-produced instrument capable of playing intricate rhythms with a wide dynamic range. This study concentrates on the main developments that led to the modern snare drum. Additional designs and experiments are represented by drums in the catalog and patents in the Appendix.

Through the first half of the nineteenth century and the Civil War, the side drum was primarily a military instrument. During the late-nineteenth century, its use expanded into other genres, including orchestral music and vaudeville. Changes in its use affected the type of instruments that were built and the sound characteristics that players demanded.

Likewise, that change in usage also affected the terminology used to describe the drum. The older term, side drum, was no longer used, as the players found different ways to wear or mount the drum. The term, snare drum, became the standard term for the instrument in the United States by the beginning of the twentieth century.

The European history of the side drum has been well documented in studies by James Blades (*Percussion Instruments and Their History*) and Jeremy Montagu (*Timpani and Percussion*). The early American tradition was discussed by Raoul Camus in *Military Music of the Revolutionary War*. Civil War historians such as G. Craig Caba (*United States Military Drums 1845-1865: A Pictorial Survey*)¹³ and Robert Garofalo and Mark Elrod (*A Pictorial History of Civil War Era Musical Instruments & Military Bands*)¹⁴ have examined the use of side drums during that conflict. Recent studies that have documented some of the developments of the snare drum in the twentieth-century include several books by Rob Cook (*The Complete History of the Leedy Drum Company*,¹⁵ *The Slingerland Book*,¹⁶ and *The Ludwig Book*);¹⁷ John Aldridge (*Guide to Vintage Drums*);¹⁸ Harry Cangany (*The Great American Drums and the Companies that Made Them: 1920 – 1969*);¹⁹ and, Chet Falzerano (*Gretsch Drums: The Legacy of “That Great Gretsch Sound”*).²⁰ However, none of these studies have documented the changes that occurred in drums between the Civil War and the early twentieth century.

This thesis focuses primarily on examples from the more than 140 side and snare drums in the collections of the National Music Museum (NMM) at The University of South Dakota in Vermillion; but, whenever possible, other collections and sources have also been consulted. Archival materials from the Museum's Musical Instrument Manufacturer's Archive, containing hundreds of trade catalogs and other materials, and the William F. Ludwig II patent collection, containing more than 1200 patents compiled by the Ludwig family, were also

examined in the course of this study. The thesis represents the first time that such an in-depth study has been made of side and snare drums.

Notes

1. Jeremy Montagu, *Timpani and Percussion* (New Haven, Connecticut: Yale University Press, 2002), 22.
2. James Blades, *Percussion Instruments and Their History* (1970; reprint, Westport, Connecticut: The Bold Strummer, 1992), 184.
3. Montagu, 42.
4. Blades, 209.
5. *Ibid.*, 210.
6. Montagu, 33.
7. Thoinot Arbeau, *Orchésographie* (1588; reprint, New York: Dover, 1967), 19.
8. Michael Praetorius, *Syntagma Musicum II – De Organographia* 1619 (facsimile; Kassel: Bärenreiter, 1958).
9. Marin Mersenne, *Harmonie universelle* 1636 (The Hague: Martinus Nijhoff, 1957).
10. Raoul Camus, *Military Music of the American Revolution* (Westerville, Ohio: Integrity Press, 1975), 40-41.
11. *Ibid.*, 44.
12. *Ibid.*, 82.

13. G. Craig Caba, *United States Military Drums 1845-1865: A Pictorial Survey* (Harrisburg, Pennsylvania: Civil War Antiquities and Americana, 1977).
14. Robert Garofalo and Mark Elrod, *A Pictorial History of Civil War Era Musical Instruments and Military Bands* (Charleston, West Virginia: Pictorial Histories Publishing Co., 1985).
15. Rob Cook, *The Complete History of the Leedy Drum Company* (Fullerton, California: Centerstream, 1993).
16. Rob Cook, *The Slingerland Book* (Alma, Michigan: Rebeats, 1996).
17. Rob Cook, *The Ludwig Book* (Alma, Michigan: Rebeats, 2003).
18. John Aldridge, *Guide to Vintage Drums* (Anaheim Hills, California: Centerstream, 1994).
19. Harry Cangany, *The Great American Drums and the Companies That Made Them, 1920-1969* (Cedar Grove, New Jersey: Modern Drummers Publications, Inc., 1996.)
20. Chet Falzerano, *Gretsch Drums: The Legacy of "That Great Gretsch Sound"* (Fullerton, California: Centerstream, 1995).

Terminology

In an attempt to define clearly the different terms for drums with snares, it has been necessary to review the literature discussing European terms, and then to look at mid- to late-nineteenth-century materials in America. The English term, side drum, is usually applied to any drum with snares. According to Blades, this term is applied to both shallow shell instruments that are used in orchestras and bands and also to the larger military drums.¹ In French, drum is both *caisse* and *tambour*. The French term, *caisse claire*, is usually used to define a small orchestral side drum. *Tambour militaire* describes the larger military drum.² In German, the smaller of the two drums is the *kleine trommel*. According to Jeremy Montagu, the larger side drum is a *rührtrommel*.³ To complicate matters, the tenor drum in Germany (a drum larger than a side drum, but without snares in England, France, and America) had snares.⁴ This drum is often called a *wirbeltrommel*; and, according to Montagu, is easily confused with the *rührtrommel*, but with larger dimensions.

In the United States, the term, snare drum, has traditionally been applied to any drum with snares.⁵ However, this seems only to be the case since the late nineteenth century. In mid-nineteenth century patents, the terms are not as standardized. The term, military drum, is used in a patent by Charles Zimmerman in 1858.⁶ In 1863, Jack Dermond lists an improvement for “military, side, or small drums.”⁷ That same year, Johnson Mason took out a patent for “military side drums.”⁸ The term, side drum, seems to have been in use at least until 1886, when John Philip Sousa used it in his book, *The Trumpet and Drum*.⁹

The term, snare drum, seems to have gained widespread usage with late-nineteenth-century musical instrument distributors and manufacturers. C. G. Conn sold snare drums of two types (a rod-drum Prussian model and a rope-tension model) in his 1880 catalog.¹⁰ Lyon and Healy also offered snare drums (1881) in a Prussian model and a regulation (rope-tension) model.¹¹ This seems to be a reasonable shift in terminology, since, as with the introduction of the Prussian drum and its leg rest, not all drums were hung at a player's side. Interestingly, a catalog from the John F. Stratton Company (ca. 1881-1885), offers the same two models under the heading "Snare (or Tenor) drums." This could mean that the option existed to purchase these drums without snares; but, since only one price is listed, it seems likely that Stratton, who imported instruments from Germany, used the American terms, snare drum and tenor drum, to translate the German *rührtrommel* and *wirbeltrommel*.

In this thesis, the author utilizes the American usage of snare drum as a generic term to encompass all drums with snares. Specifically, drums built in Europe, and in the United States during the first three-quarters of the nineteenth century, are referred to as side drums. Drums built in the United States after 1880 are snare drums. In addition, as is common in this country, snare drums are further categorized by their use and designated as orchestral, Prussian, parade, and so on, when appropriate.

Notes

1. James Blades, *Percussion Instruments and Their History* (1970, reprint, Westport, Connecticut: The Bold Strummer, 1992), 371.
2. The term *petit tambour* also means small drum. Blades, 371.
3. Jeremy Montagu, *Timpani and Percussion* (New Haven: Yale University, 2002) 108.
4. Ibid.
5. Blades, 371.
6. Zimmerman, C., inventor, *Construction of Military Drums*, U. S. Patent Number 19,602. 9 March 1858.
7. Dermond, J., inventor, *Improvement in Military Drums*, U. S. Patent Number 37,570. 3 February 1863. Small drum is the literal translation of the German *kleine trommel*.
8. Mason, J., inventor, *Improvement in Drums*, U. S. Patent Number 39,058. 30 June 1863.
9. John Philip Sousa, *The Trumpet and Drum* (1886; 2nd reprint, Cleveland, Ohio: Ludwig Music Publishing Co., 1985), 31.
10. C. G. Conn, *Catalogue and Price List* (Elihart, Indiana: C. G. Conn, 1880), 27.
11. Lyon and Healy, *Illustrated Band Instruments, Trimmings, etc. For Sale by Lyon and Healy* (Chicago: Lyon and Healy 1881), 74.

Chapter One

Mid-Nineteenth-Century American Side Drums

I. Military Use

The side drum was mainly a military instrument in eighteenth- and nineteenth-century America. Its primary use was as a way of communicating signals and commands to troops; only secondarily was it used as a musical instrument.¹ During the Revolutionary War, drum signals were quite elementary and the job of being the drummer was often assigned to non-musician soldiers.² Between the Revolutionary and Civil Wars, the importance of musical instruments as a means of communication in the military grew. The bugle was introduced into the American army during the War of 1812,³ and, according to European tradition, was used to signal the cavalry. Drums and fifes were used to signal the infantry.⁴

By the time the Civil War began, drummers were among the most valuable members of a military company. The most visible part of a drummer's job, playing cadences so that the troops could march in step, was but a small part of the duties assigned to a military drummer. Civil War drummers performed many different cadences throughout the day to signal the troops to wake up, eat, work, and go to bed.⁵ The drummers were the company clocks that kept operations running efficiently. Civil War drummers underwent rigorous drilling to learn all of the signals necessary to perform their duties.⁶ Drums, and the men and boys who played them, were an indispensable part of a soldier's life.

II. Shell Construction

The side drums of the mid-nineteenth century are not significantly different from drums that had been built in Europe for more than a century. The most basic part of a drum is the shell. The shell acts both as the main structural element and as the sound resonator, partially defining the pitch and volume of the drum. As a drum's height is increased, the pitch that it produces becomes lower and its volume louder. Drum shells during the mid-nineteenth century were made of either wood or metal. Because of the plentiful supply of wood and woodworkers in the United States, it was the favored material in that country. Brass shells were much more common in Europe.⁷

The first step in making a drum is to form the material into a cylinder. To make a wood shell, a large, flat piece of wood, along with several smaller pieces for reinforcement and rims, must be bent into shape. The wood is dipped into large barrels of boiling water to make it pliable and then manipulated and formed into the drum shell.⁸ The ends of the wood, having been tapered before the process began, are overlapped and glued together. Brass shells are formed from a flat, thin sheet of metal, which is bent around a form and hammered into a cylinder. The seam is then riveted, soldered, or both.

In eighteenth- and early-nineteenth-century America, craftsmen with wood or metal skills usually made drums as a side business. Carpenters, cabinetmakers, coach makers, coopers, and tinsmiths all could, and did, manufacture drums. Coopers, traditionally the craftsmen who constructed drums in Europe, were the most likely makers of drums, since they made other products that utilized wood bending techniques, such as lanterns, bushel measures, pails, wooden shoes, bellows, sieves, and colanders.⁹

One such family of coopers rose to prominence as drum manufacturers during the Civil War. C. and F. Soistmann lived in Philadelphia and began building drums in the late 1850s.¹⁰ Philadelphia, an important center for cultural and political life, provided the brothers with access to a national market for their drums. The Soistmanns sold their drums to many Northern regiments from Wisconsin to Maine during the War. They also sold to the United States Army Quartermaster's Office and to other military dealers, such as Eisenbrandt Musical Instrument Manufacturer's and Military Outfitters of Baltimore.¹¹ The Soistmanns may have been the makers of a drum in the collections of the National Music Museum (NMM 2814), built about 1860 and sold by Eisenbrandt.

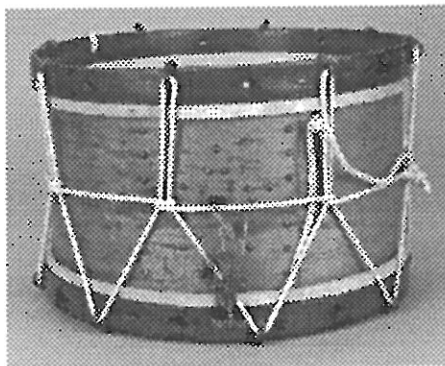


Photo 1. NMM 2814.

Labeled: *Eisenbrandt Musical Instrument Manufacturer's and Military Outfitters.*

Often, drums and other military instruments, such as bugles and fifes, were produced and sold by companies that specialized in military goods. As the military was the single largest market for drums until well after the Civil War, drums were usually sold alongside other military accoutrements. Besides the Eisenbrandt firm, the Horstmann family in Philadelphia also sold military items of all sorts and distributed large numbers of side drums around the country.¹²



Photo 2. NMM 10,040.
Made by William Ent, ca. 1850.

Another wood craftsman represented by a drum in the Museum's collections is William Ent of Germantown, Pennsylvania. Ent, principally a coach and carriage maker, started in the musical instrument business about 1850, selling, repairing, and building drums and fifes.¹³

The decoration of most side drums before the Civil War was quite plain. Drums were usually stained and/or varnished, and the rims were painted to contrast with the wood shell. Ash, oak, and maple were the most common types of wood used to make drums,¹⁴ although the type of wood could vary, depending upon what was available where the maker lived. Painted drum shells, though less common, could also be found (see NMM 906, p. 111).

Brass tacks were commonly used to reinforce the glued shell overlap. The tack patterns also became decorative elements in the nineteenth century, as individual makers formed their own intricate designs. Unique to their own drums, these tack patterns often serve as a maker's trademark.

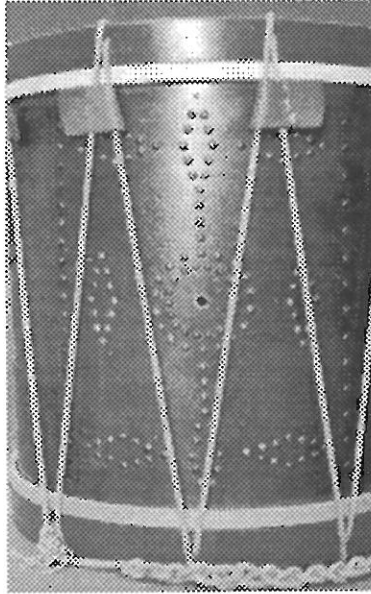


Photo 3. NMM 10,039.
Made by Eli Brown, 1841.
Tack pattern on drum.

In the military, the decoration of drums was spelled out in the *General Regulations for the Army of the United States* (Washington, 1841), art. 63, section 454, page 79:

The front of drums will be painted with the arms of the United States, on a blue field for the infantry, and on a red field for the artillery. The letter of the company and number of the regiment, under the arms, in a scroll.¹⁵

A verbal description of the coat-of-arms appears in the 1861 *Regulations for the Army of the United States*:

Arms of the United States - Arms - Paleways of 13 pieces, argent and gules; a chief, azure; the escutcheon on the breast of the American eagle displayed, proper, holding in his dexter talon an olive branch, and in his sinister a bundle of 13 arrows, all proper; and in his beak a scroll, inscribed with this motto: E PLURIBUS UNUM.

For the crest: Over the head of the eagle, which appears above the escutcheon, a glory breaking through a cloud,

proper, and surrounding thirteen stars, forming a constellation, argent, and on an azure field.¹⁶

Over time, drums bearing this decoration became commonly known as eagle drums. Hand-painted drums with eagle emblazonments date back as far as the War of 1812.¹⁷ The same decorations were used on everything from army buttons to hat boxes, and if the drum maker did not possess the skill to paint it himself, there was certainly a painter in the area who would do it. By the 1830s, stencils were used to make the process more efficient.¹⁸

During the Civil War, many variations of this design were made, often omitting many of the details described above. The Museum's example, NMM 2866, has an eagle, but it does not carry the scroll and motto. The eagle is painted on a red field, which would indicate that it was used in an artillery unit. At a later point in the drum's history, the red rims were covered by an outer layer of black paint, and the shell was covered by a layer of dark varnish. Although the shell was also cut down, the eagle is still prominent.

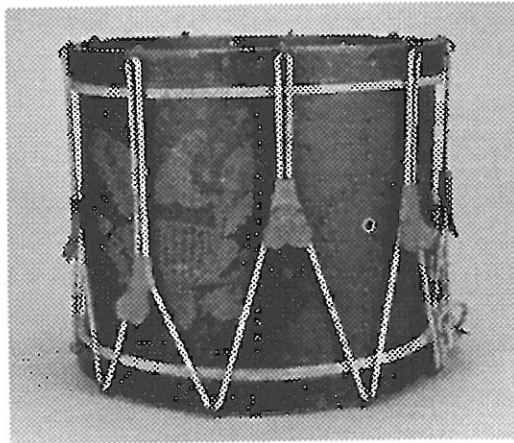


Photo 4. NMM 2866.
By Eli Brown, 1835.

Confederate drums were decorated similarly to their Union counterparts. Some were even painted with the Federal arms, because they were either in use before the war or were purchased from Northern military dealers.

To prevent militia units from purchasing Northern drums, the acquisition of military drums in the Confederacy was spelled out in *The Regulations for the Army of the Confederate States* (Richmond, 1862), Section 75, where it states:

Requisitions will be sent to the Quartermaster-General for the authorized flags, colors, standards, guidons, drums, fifes, bugles, and trumpets.¹⁹

It is doubtful whether many of these orders were actually filled, as the Confederate states had a difficult time just supplying their troops with more basic needs such as food and artillery. If many drums were produced and decorated for Southern use, very few survived, and from these few pieces it is hard to make any generalizations.²⁰

The most elaborately decorated drums were called presentation drums. These drums could be decorated with intricate painting or inlaid wood designs. Presentation drums were used by both military and civilian drummers, but the most exquisite drums tended to be used by civilians, because of the governmental guidelines for the decoration of military drums. The Museum has a striking example by W. S. Tomkins, Yonkers, New York, 1860 (NMM 10,141). The instrument has multi-colored, inlaid-wood marquetry on both the shell and rims. The focal point of the decoration is a series of concentric circles of variously designed stars surrounding a large central sun. A silver-plated shield affixed to the drum details its gift to the drummer, Thomas J. Hellrigle.



Photo 5. NMM 10,141.
By William S. Tomkins, 1860.

The only drastic change in the construction of American side drums between the Revolutionary War and the Civil War was a decrease in the drum's dimensions. Military drums from the eighteenth century were made as large as nineteen inches in height with a slightly smaller diameter.²¹ By the Civil War, side drums usually had a shell height of around ten to twelve inches, with a diameter of approximately fifteen to sixteen inches.²² The dimensions were far from standardized, however, and sizes varied from maker to maker and region to region, sometimes even between drums produced by the same maker.

This trend can be illustrated by looking at several instruments in the Museum's collections. There are three American side drums that date from the first half of the nineteenth century in the Museum's collections. NMM 2866 was built by Eli Brown & Son, Bloomfield, Connecticut, about 1835. This drum originally measured approximately 481 mm (18-7/8 inches) high and had a diameter of around 467 mm (18-3/8 inches) across.²³ A second drum, NMM 10,039, built by Eli Brown in 1841, measures 495 mm (19-1/2 inches) high and 471 mm (18-1/2 inches) in diameter. A third drum in this pre-war

category, NMM 10,040, built about 1850 by William Ent of Germantown, Pennsylvania, is substantially smaller than the two by Eli Brown, but still measures approximately 422 mm (16-1/2 inches) by 414 mm (16-5/16 inches).

By the 1860s, drums with smaller shell heights were being produced. The representative military side drums at the Museum range in size from a small drum labeled H. R. Eisenbrandt, Baltimore, which measures 279 mm (11 inches) in height, to a drum by an amateur New England maker, labeled A. E., dating from about 1860, that has a shell height of 376 mm (14-3/4 inches). The following chart summarizes the Museum's mid-nineteenth-century American side drums and their dimensions.²⁴

Date	Maker	NMM	Shell Height	Diameter
ca. 1835	Eli Brown	2866	18-7/8 inches 15-1/4 inches	18-3/8 inches ²⁵ 16-1/2 inches
1841	Eli Brown	10,039	19-1/2 inches	18-1/2 inches
ca. 1850	William Ent	10,040	16-1/2 inches	16-5/16 inches
ca. 1856-65	White Brothers	10,041	14 inches	16-1/4 inches
1858	James Sturdevant	906	12-1/4 inches	15 inches
ca. 1860	H. R. Eisenbrandt	2814	11 inches	16-1/2 inches
ca. 1860	A. E.	2865	14-3/4 inches	15-1/4 inches
1860	W. S. Tompkins	10,141	15-3/4 inches	17 inches

Table 1: Mid-Nineteenth Century American Side Drum Dimensions

This chart illustrates that the three earliest drums are substantially larger than the later drums built closer to the time of the War. Interestingly, NMM 10,141 measures 400 mm (nearly 16 inches) in height and was built in 1860. However, this instrument, an exquisitely decorated presentation drum, was not meant to be used in the military; therefore, the size could be large without impeding the drummer marching on long campaigns.

There were many possible reasons why the size of the side drum decreased. First, the age of the average Civil War drummer was between 12 and 16 years.²⁶ Smaller drums were more easily carried by these younger, shorter drummers. Raoul Camus, in *Military Music of the American Revolution* (Westerville, Ohio: Integrity Press, 1975), states that during the Revolutionary War, boys were often recruited as drummers, but did not replace the adult musicians, as they did in the later War.²⁷

Second, these smaller drum shells produced a crisper, higher pitched sound with less volume. It was easier for these softer drums to be used with other instruments in the military bands that were much more prominent during the Civil War.²⁸ In addition, the higher, crisper tone allowed for more complex rhythms to be played on the drums. These rhythms were more easily distinguished by listeners and a greater number of signals could be used in camp and for marching maneuvers.

Third, Camus points to the development of the bass drum as a likely reason for a smaller side drum. The bass drum was introduced into military bands at the end of the eighteenth century and was a regular member of military bands by the Civil War. Bass drums can be seen in many Civil War band photographs, and a relatively large number of them have survived from this era. A smaller side drum would increase the tonal difference between it and the bass drum.²⁹

Finally, Europeans seem to have adopted smaller side drums at a much earlier date than Americans. European drums surviving from the eighteenth and early nineteenth centuries are much smaller than American drums of this same period. It is probable that European immigrants, or drums imported from Europe, influenced the size of American drums. An unsigned drum from Switzerland built about 1750 (NMM 7405),

has a shell height of approximately 330 mm (ca. 14 inches) and a diameter of about 355 mm (ca. 14-1/2 inches). An English drum built in 1796, No. 181 in the Ross Collection of Musical Instruments of the Edinburgh University Collection, has a shell height of 348 mm (ca. 13-3/4 inches) and a diameter of 390 mm (ca. 15-3/8 inches).³⁰ An unsigned German drum from the early nineteenth century in the *Musik-instrumentenmuseum der Universität Leipzig*, Inv.-Nr. 4161, has a shell height of approximately 290 mm (11-1/2 inches) and diameter of approximately 320 mm (12-1/2 inches).³¹ European drums such as these could have influenced drum makers in America to make smaller side drums.

Whatever the reason, these smaller drums were in such high demand by Civil War drummers that many of the larger, pre-war drums were cut down. NMM 2866, an instrument built by Eli Brown about 1835, NMM 2866, is certainly one such instrument. Eli Brown was a very important maker, considered by many during his own day to be the master drum builder in Connecticut.³² Although his drums predate the Civil War by many years, they were often used during the War because they were such high quality instruments. The Museum's example has a maple shell with red-painted rims and is decorated with an eagle clutching an olive branch in its right talon and arrows in its left talon. Approximately three-quarters of the eagle's left wing is missing because the shell was cut down.

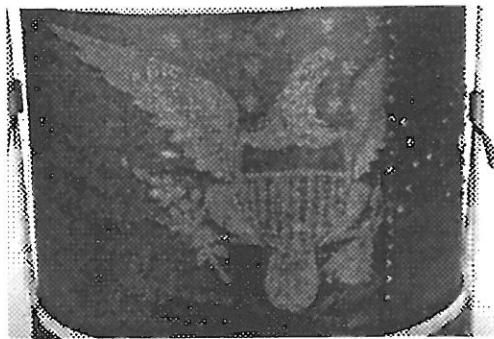


Photo 6. NMM 2866 by Eli Brown.
Eagle painting.

Assuming that both wings of the eagle originally measured approximately the same size, then at least 153 mm (about 6 inches) of the circumference of the shell is missing. By adding the current circumference (1,314 mm) to the estimated size of the missing shell (153 mm), the original circumference can be determined to have been about 1,467 mm (approximately 57-3/4 inches). Using the circumference formula, $\text{circumference} = \pi \times \text{diameter}$, it can be concluded that the original diameter of this drum was at least 467 mm (approximately 18-2/5 inches).

To approximate the drum's original shell height, a comparison of the brass tack design on this drum with the design on NMM 10,039 is necessary. The intricate brass tack design on NMM 10,039 features two concentric circles around the vent hole. Four vertical diamonds fan out from the circles at 90-degree angles, and four horizontal diamonds are located in each corner. Framing the design on either side are parallel vertical lines. The design is a mirror image from top to bottom and from left to right.

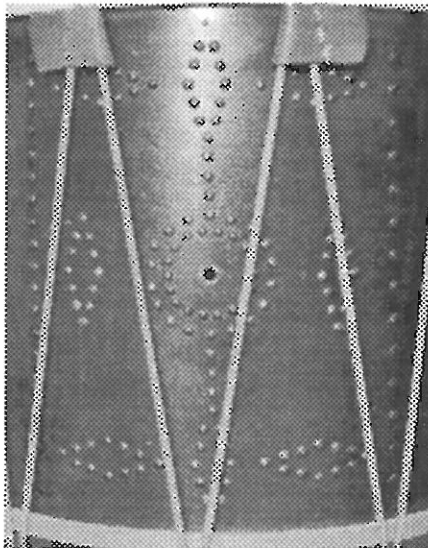


Photo 7. NMM 10,039.
Made by Eli Brown, 1841
Tack design.

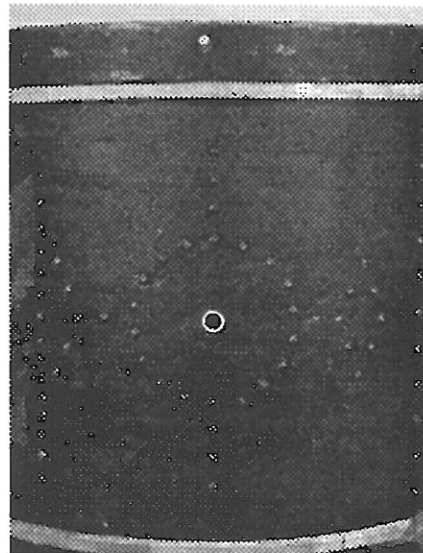


Photo 8. NMM 2866.
Made by Eli Brown, ca. 1835.
Tack design.

The tack design on NMM 2866 has only one circle of tacks around the vent hole and one vertical diamond on the right side of the circle. An additional half diamond is located on the left side. Two parallel lines of tacks frame the design. Closer inspection of NMM 2866 reveals that there are holes where tacks at one time existed, but, because of their close proximity to the current position of the rims, these had to be removed. By drawing lines to connect these "dots," similarities can be seen with the design on NMM 10,039. It can be deduced that NMM 2866 originally had eight complete diamonds in the same configuration as NMM 10,039.

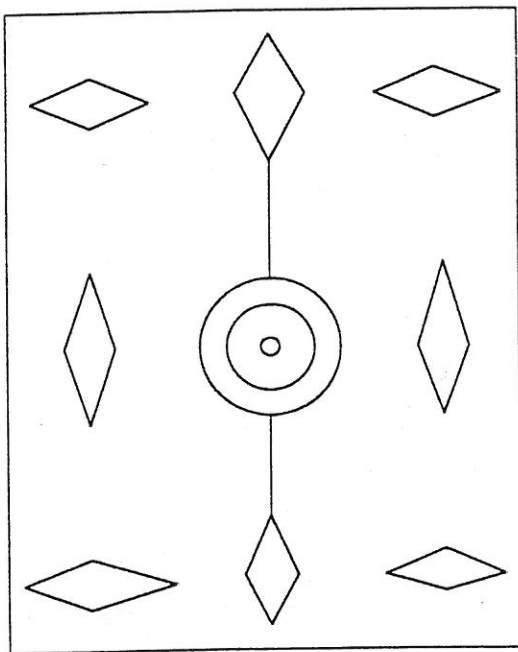


Figure 1. NMM 10,039.
Design formed by tacks.

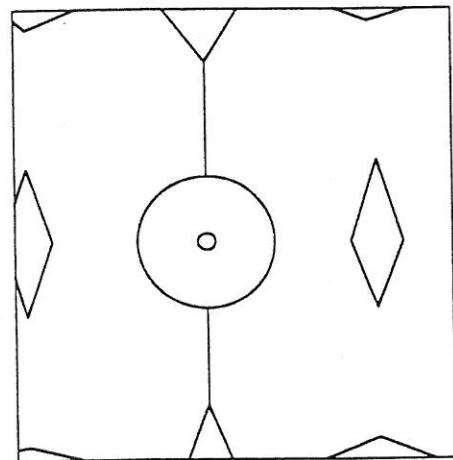


Figure 2. NMM 2866.
Design formed by tacks.

All of the diamonds on NMM 10,039, whether vertical or horizontal, are the same size, 80 mm (3-1/8 inches) long x 29 mm (1-1/8 inches) at its widest point. On NMM 2866, the only complete diamond measures approximately 80 mm long (3-1/8 inches) x

33 mm (1-3/8 inches) at its widest point. If it is assumed that all of the diamonds on this drum also originally measured the same, and if one uses the tack holes as a guide for where the diamonds would have been positioned, then there would need to be approximately 45 mm (1-3/4 inches) of additional shell on the bottom and 53 mm (2 inches) on the top in order to complete the tack design. Leaving a millimeter or two between the tacks and the rims, one can conclude that there is approximately 100 mm (3-3/4 inches) missing from the original height of the drum shell. Therefore, the original dimensions of the drum would have approximated 481 mm (18-7/8 inches) high by 467 mm (18-2/5 inches) in diameter. This is slightly smaller, but comparable with the dimensions on the Museum's other side drum by Eli Brown (NMM 10,039) that was not cut down.

III. Mid-Nineteenth-Century Drum Hardware

Hardware on American drums built during the middle part of the nineteenth century is quite simple. All of the American drums of this period were rope-tension. This system, which dates back to the ancient Egyptians,³³ has been used for hundreds of years on European drums and is also found on non-Western instruments from Indonesia and Africa. On a European rope-tension drum, the animal skin heads (usually calfskin) are mounted on small circular hoops (known as flesh hoops) and placed on the drum shell. The rim (counter hoop) is placed on top to secure the flesh hoop. The rope is then laced through holes drilled around the circumference of the rims, zigzagging along the shell between holes in the top (batter) and bottom (snare) hoops. To tighten the rope, leather tugs are used to clasp together two lengths of the rope as it passes over the shell.

By moving the leather tugs (sometimes called ears) down toward the snare head, the ropes are pulled closer together. The rope pulls on the rims, which pull on the flesh hoops and tighten the tension on the drumheads.

In 1858, Charles M. Zimmermann patented a series of roller hooks, or pulleys, attached to the rims, through which the rope passes. This patent eliminated the necessity of drilling holes in the rims, which were rough and often caused the rope to fray.

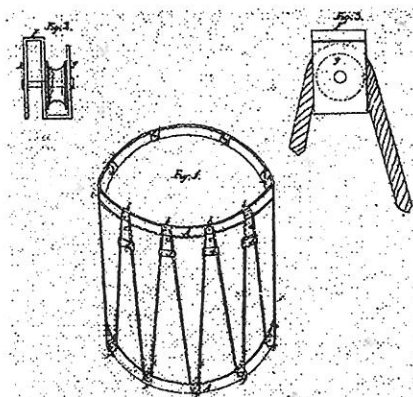


Figure 3. Zimmermann's patent drawing.
U. S. Patent Number 19,062. 9 March 1858.

Although these patented pulleys cannot be found on any existing drums, other drum manufacturers experimented with alternate ways to attach the rope to the rims. W. S. Tompkins, maker of NMM 10,141, used metal rings attached to the rim to solve this problem.

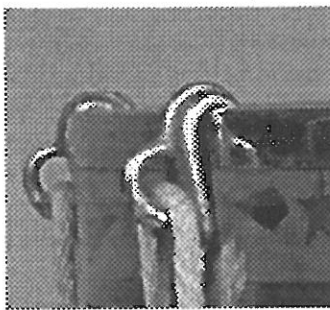


Photo 9. NMM 10,141.
Made by William S. Tompkins, 1860.
Hook through which rope passes.

Snares are secured across the bottom head of drums. By rattling against the bottom head when the drum is struck, the snares give the instrument its characteristic “buzzy” sound. The number of snares on a mid-nineteenth century drum can vary from as few as one or two to as many as six or eight. Primarily, the snares were made of gut that was twisted into a cord. Occasionally, other materials such as cloth or wire were used. In 1862, a military drummer with the New York State Militia, George B. Bruce, published a booklet titled *Drummer’s and Fifer’s Guide: or Self Instructor*. In this booklet, Bruce writes:

In regard to snares, some performers prefer cat-gut, others raw-hide; both are good, but for general use, the raw-hide is preferable, as in wet weather, the cat-gut is the most easily affected by the dampness, which causes a contraction, and prevents the proper vibration.³⁴

Simpler drums, such as one built in 1858 by James Sturdevant of Waverly, Iowa (NMM 906), have the snares mounted directly under the counter hoops. This does not allow the player to tighten or loosen the snares, except when the heads are adjusted.

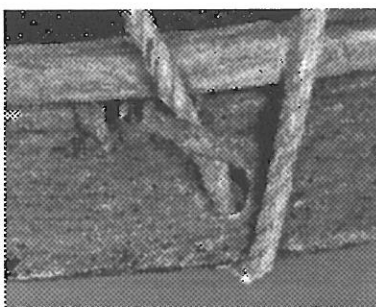


Photo 10. NMM 906.
Made by James Sturdevant, 1858.
Snares held in place by rim.

Drums built for commercial sale usually had brass snare adjusters (strainers). Though there were a variety of styles, a few were more common than others. The style most common on European drums is simply a hook, shaped like the letter J, which is

mounted into a brass plate attached to the shell. The player can loosen or tighten a screw to change the tension on the snares.

In the United States, J-hook strainers were sometimes used, but a variety of other methods were also employed. Some strainers were screws, mounted horizontally, perpendicular to the shell. When tightened, the screw pushes against the rim, forcing the snares (clamped together by two pieces of metal) out, creating greater tension against the snare head. Other strainers were long screws, mounted vertically, parallel to the shell, which clamp onto the snares, pulling them up to create greater tension. Both methods were used until late in the century and can be found in American trade catalogs.

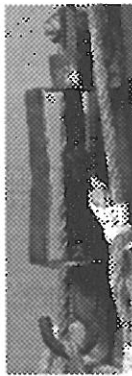


Photo 11. NMM 10,042.
France, ca. 1875.
J-hook strainer.

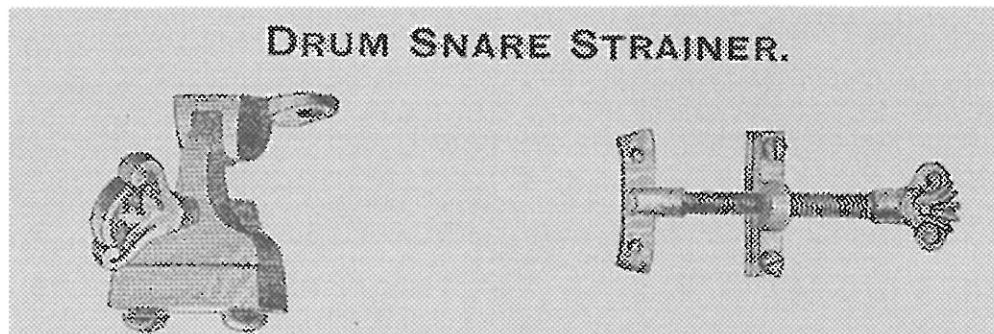


Figure 4. H. C. Barnes 1893 catalog.³⁵
Common strainers found on mid-nineteenth century American drums.
(The strainer on the right would be mounted vertically, not horizontally as shown.)

Several methods could be used to secure the opposite side of the snares. On American drums, the snares would usually loop through a piece of leather that was held in place by the rims. European drums often have brass knobs mounted to the shell over which the snares are looped or tied.



Photo 12. NMM 10,043.
Belgium, ca. 1875.
Leather strap holding snares.

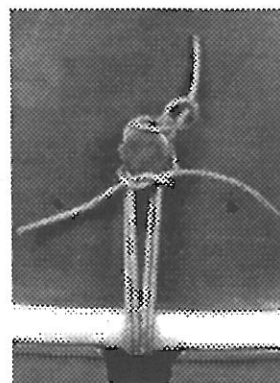


Photo 13. NMM 10,091.
Made by Trommel-Fabrik,
Weissenfels, Germany.
Knob over which snares are tied.

Drummers on a long campaign might be miles away from a drum maker or wood-working shop and either had to carry basic repair parts or improvise from what was available. Although sometimes larger military units did order spare drum parts from large distributors, such as the Eisenbrandt firm in Baltimore, this was the exception rather than the rule.³⁶

In general, American drums of the mid-nineteenth century were very similar to instruments built during previous centuries both in the United States and in Europe. At the same time, many innovations in drum design were taking place in Europe; but, because of the War, they took longer to be accepted in America.

Notes

1. Raoul F. Camus, *Military Music of the American Revolution* (Westerville, Ohio: Integrity Press, 1975), 82.
2. Ibid., 84.
3. Thomas C. Railsback and John P. Langellier, *The Drums Would Roll: A Pictorial History of US Army Bands on the American Frontier 1866-1900* (London: Keats European Production, 1987), 10.
4. Camus, 19.
5. Robert Garofalo and Mark Elrod, *A Pictorial History of Civil War Era Musical Instruments and Military Bands* (Charleston, West Virginia: Pictorial Histories Publishing Co., 1985), 35.
6. Ibid.
7. Although wood shells are also common in Europe, given an ample supply of cheap metal, it was less labor intensive to produce drums with metal shells than wood. Jeremy Montagu, Oxford, e-mail to the author, April 29, 2003.
8. Craig G. Caba, *United States Military Drums 1845-65: A Pictorial Survey*. (Harrisburg, Pennsylvania: Civil War Antiquities & Americana, 1977), 2.
9. Denis Diderot, *L'Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, II (Paris: 1751; reprint, New York: Dover, 1993) plate 457.
10. There is some confusion as to the name of these two brothers. Lloyd Farrar, in "Under the Crown and Eagle" *Newsletter of the American Musical Instrument Society* 16, no. 1 (February 1987): 3, lists them as Conrad and Frederick. Caba, 67, as Charles and Francis.

11. Caba, 67 and Lloyd Farrar, "Under the Crown and Eagle," *Newsletter of the American Musical Instrument Society* 16, no. 3 (October 1987): 8.
12. Caba, 52.
13. Ibid., 60.
14. Ibid, 2.
15. Ibid, 4.
16. *Regulations for the Army of the United States, 1861* (New York: Harper and Brothers, 1863), article 49, section 1367.
17. Caba, 5.
18. Ibid.
19. Ibid, 101.
20. Ibid.
21. Camus, 11.
22. Garofalo and Elrod, 37. Representative drums in the Museum's collection from around 1860 are slightly larger, measuring between 11 inches and 14-3/4 inches.
23. All shell height measurements include rims.
24. One other drum in the Museum's collections, NMM 3030, is also from around 1860. This drum was cut down around the turn of the twentieth century and has a shell height of around 6 inches. There is no way of approximating the drum's dimensions during the middle of the century when it was made.
25. This drum was cut down at a later date, and these dimensions are approximately what the drum original measured. See page 19.
26. Camus., 35.

27. Camus, 8.
28. Garofalo and Elrod, 37.
29. Camus, 10.
30. James Blades, *A Check-List of the Percussion Instruments in the Edinburgh University Collection of Historic Musical Instruments* (Edinburgh: Reid School of Music, 1982), 13.
31. Birgit Heise, *Katalog Membranophone und Idiophone: Musikinstrumentenmuseum der Universität Leipzig* (Halle an der Saale: Janos Stekovics, 2002), 84.
32. Caba, 16.
33. James Blades, *Percussion Instruments and Their History* (1970; reprint, Westport, Connecticut: The Bold Strummer, 1992), 206.
34. Caba, 110.
35. H. C. Barnes, *G. W. Stratton & Co., Descriptive Catalogue, Violin Strings, Musical Merchandise, Musical Instruments, H. C. Barnes, Successor in Wholesale Musical Merchandise* (Boston: H.C. Barnes, 1893), 118.
36. Caba, 12.

Chapter Two

European Innovations and their Influence on American Drums

I. Orchestral Use

During the second half of the nineteenth century, side drums were finding new uses in a variety of music styles. The drums no longer were just used as solo instruments or with fifes in drum corps. They were becoming a part of larger ensembles. The side drum had been used in the orchestra as early as 1706, when Marais used it in his opera, *Alcione*. Rossini is credited with re-introducing the side drum in his opera, *La Gazza Ladra*, in 1817.¹ Beginning in the 1830s and '40s, composers, especially Berlioz, began to include percussion instruments as part of the standard symphonic sound palette. The side drum, bass drum, and cymbals were already regular members of the ensemble by the time orchestras began to appear regularly in American cities toward the end of the century.² Similarly, concert bands used a greater number of percussion instruments, as their repertoire expanded to include orchestral transcriptions and popular tunes.

Drums were now being used in concert halls and opera houses and needed to have a larger dynamic range and the ability to play more complex rhythms. The side drum was to continue to play an important part in military music. However, it was obvious to players and makers alike that the traditional rope-tension system was inadequate for the types of tension necessary for the new styles of music.

II. Invention of Rod Tension Drums

European makers had been dealing with this issue for several decades before the American Civil War. In 1837, Cornelius Ward was granted a British patent for “Improvements on the musical instruments designated drums.” As part of the patent, he lists “A mode of dispensing with the use of cords to all drums having two heads.”

His unusual patent included four design changes for drums, two of which are important to the overall development of the snare drum. In the first section of his patent, Ward describes a partially internalized rope-tension drum. The tension on the heads can be tightened or loosened by a hand screw on the exterior of the drum shell. This design was intended for use on all drums, and is illustrated on both a kettle and a side drum.

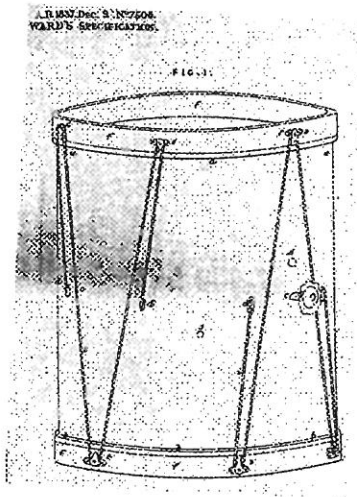


Figure 1. Drawing from Cornelius Ward patent.
British Patent Number 7505. 9 December 1837.³

NMM 10,293 is a rare English drum built in 1858 by Henry Potter. This drum utilizes a combination rope and rod tension that is similar to Ward’s design. Potter uses metal rods that the player can adjust to pull on the rope and tighten the

heads. This design eliminates the need for leather tugs. Transitional drums such as this are extremely rare, as very few were probably ever made and most of those were probably converted to rod-tension drums in order to be of practical use.

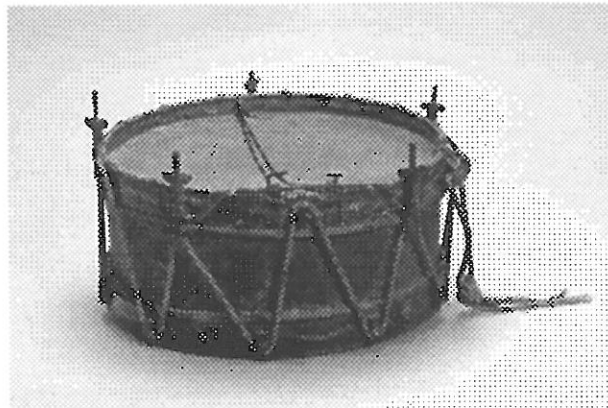


Photo 1. NMM 10,293.
Made by Henry Potter, London, 1858.

The most important section of Ward's patent was his final improvement, the invention of a rod-tension system. In his patent description he writes:

Figure 9 shews another mode of straining drum heads, and consists of applying rods... which have each a hook at one end and a screw at the other; the hooks embrace or hold one of the hoops and by means of screw nuts which are attached and carried by the other hoop, the two hoops may be drawn towards each other, and thereby tighten the two heads...

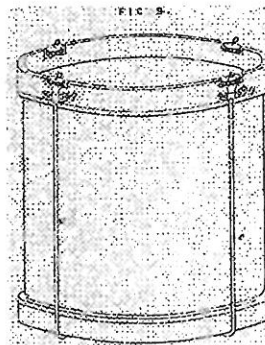


Figure 2. Cornelius Ward patent.
British Patent Number 7505. December 9, 1837.

This invention is a remarkable step forward in the development of drum tensioning. Dispensing with the rope allows greater tension to be placed on the heads, resulting in a higher pitched drum with a more articulate sound. Drums with similar tension were produced in Europe and America until the 1930s.

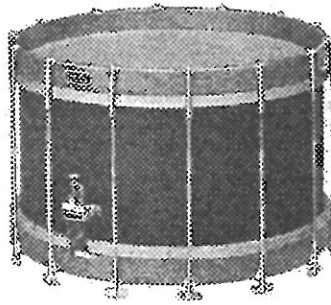


Figure 3. Drawing from Leedy Catalog H, 1916.
Rod-tension drum.⁴

Even though few early rod-tension drums survive, many illustrations can be found by looking at surviving literature and trade catalogs from the period. Rod snare and bass drums appeared in Georges Kastner's *Manuel général de musique militaire, III*, published in Paris in 1848.

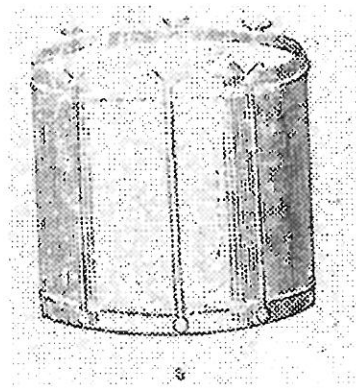


Figure 4. Drawing from *Manuel général de musique militaire*.
Georges Kastner, 1848.⁵

The appearance of rod-tension side and bass drums in this significant manual of military musical instruments shows that rod-tension drums were being

built and utilized soon after Ward's patent in continental Europe, as well as in Britain.

The use of rod-tension drums in Europe continued to increase through the mid-nineteenth century. In 1867, the prominent musical instrument manufacturer, Adolphe Sax, published an advertisement featuring the musical instruments that he built and sold. The only drums pictured in Sax's advertisement were rod-tension.

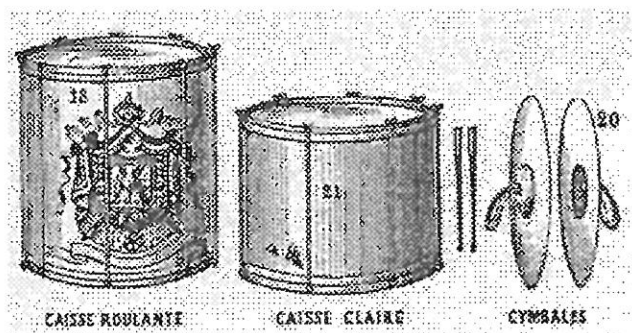


Figure 5. Adolphe Sax advertisement, 1867.
Tenor drum, side drum, and cymbals.⁶

Instruments such as this may have been imported to America, yet very rarely do photographs of Civil War bands appear with rod drums, and few - if any - of these instruments survive. A rare photo of the 3rd U.S. Infantry Band, Fort Hays, Kansas, around 1872, shows a side drummer holding a rod-tension drum.



Photo 2. 3rd U. S. Infantry Band, Fort Hays, Kansas, ca. 1872.⁷
Side drummer with rod-tension drum.

The photo shows that rod drums could be found in America, although players and makers had not adopted them as replacements for the more traditional rope drums. Undoubtedly, a major reason for the lack of acceptance was the problem of finding spare parts. If the drummer was located in a remote area of the frontier, replacement parts would have been difficult to find, if the drum was damaged.

III. Rod-Tension Banjos

Ward's invention of a rod-tension system was also applicable to another musical instrument. Banjos, like drums, have skin heads mounted on cylindrical frames that must be kept taut. Early banjos used tacks to secure the heads to gourd or wood bodies,⁸ but rod-tensioning provided for easier adjustment and replacement of the head. Though few English rod-tension drums survive from the 1840s, there are many extant English banjos from the period. NMM 10,132, built in England about 1845, utilizes metal hooks and rods in a method similar to Ward's patent.⁹ Metal-tension rods are used to secure the rim in place over the skin head and allow the player to adjust the tension on the head.

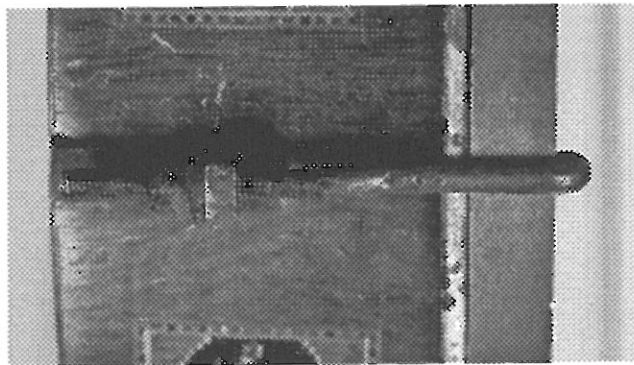


Photo 3. NMM 10,132.
England, ca. 1845.

IV. William Boucher, Jr. and Rod Tensioning in America

Sometime in the early 1840s, William Esperance Boucher and his family emigrated from Hanover, Germany, to Baltimore.¹⁰ Both Boucher and his son, William Esperance Boucher, Jr., were makers of banjos, drums, violins, and guitars. The son is known to have opened his own shop by 1849.¹¹ In addition to manufacturing, the Bouchers also imported and sold musical instruments. A Boucher advertisement shows that by the mid-1850s, Boucher Jr. was importing brasses, woodwinds, stringed instruments, and drums.

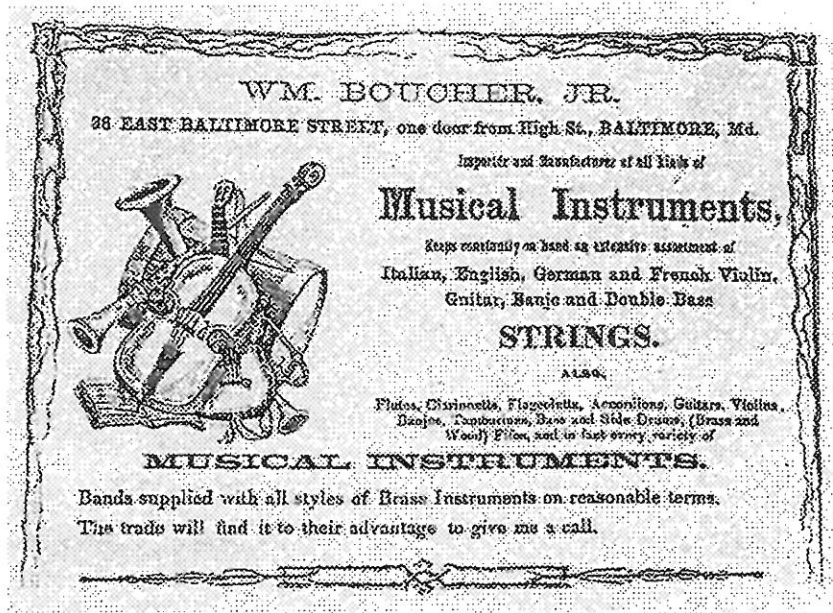


Figure 6. Boucher advertisement, ca. 1855.¹²

William Esperance Boucher, Jr. was to become one of the most important banjo makers of the nineteenth century. Among his contributions, Boucher may have been the first American banjo maker to use metal tensioning. All of his surviving banjos are rod tension.¹³ The Smithsonian's National Museum of American History is home to three banjos built and donated by Boucher.

At the time they were donated in 1890, a certificate was given to Boucher from the Smithsonian which states:

“Three Banjos, of the styles made in the years 1845-6-7 by Mr. Boucher, the inventor of tightening banjo heads by screw fixtures, showing the first method, and two subsequent improvements.”¹⁴

Boucher may have independently invented a rod-tensioning system or he may have copied the idea from instruments he had seen in Europe or later imported. Either way, his banjos are among the earliest instruments built in America that utilize rod tensioning.

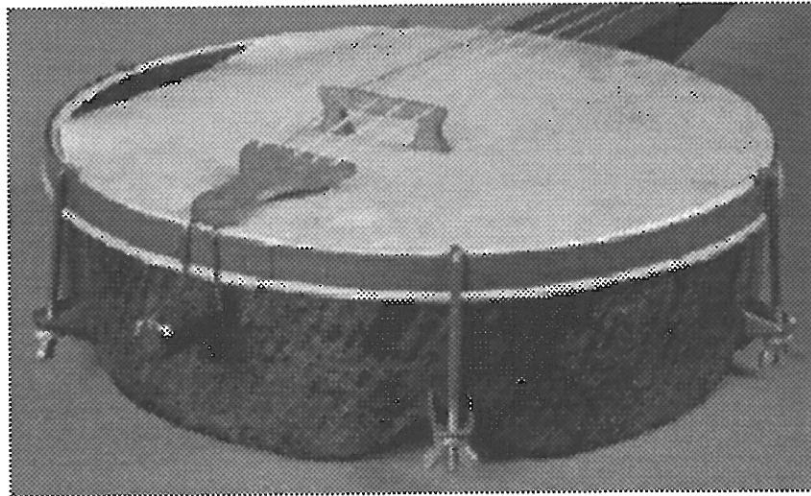


Photo 4. Smithsonian Catalog # 94765.
Banjo by William Esperance Boucher, 1845.
Detail of metal rod-tension system.



Figure 7. *The Banjo Player*, William Sidney Mount, 1856.¹⁵

The Banjo Player by William Sidney Mount, painted in 1856, is a famous iconographic representation of a rod tension instrument. The painting was part of a series of Mount's works that were reproduced as lithographs and sold in Europe. Mount painted this minstrel musician from a model, but it is not a portrait. Instead, this painting represents a "type" that Europeans associated with America.¹⁶

As such, the player is intended to show a typical minstrel musician. Mount was a musician himself, and actually invented an experimental violin in 1852.¹⁷ Certainly, an instrument builder would have been very conscious of showing the correct technical details of a musical instrument. Mount also would have shown the correct instrument in common use at the time. *The Banjo Player*

very clearly shows a banjo with metal rods similar to those built by Boucher. Therefore, it must be concluded that banjos with rod-tension systems were readily available to players in America during the 1850s.

Boucher was also a drum maker. There are at least six Boucher drums that survive, including a bass drum from about 1845 owned by Mark Elrod of Germantown, Maryland, and an eagle drum from around 1861 owned by Fred Benkovic of Wauwastosa, Wisconsin.¹⁸ It seems curious that although all of the intact Boucher banjos that survive use rod tensioning, all of his extant drums are rope tension.

A report from an 1856 mechanic's exhibition in Baltimore at which Boucher exhibited a bass drum states the following:

a very large Bass drum.... Improvement consisted of round brass hooks, placed at regular intervals around the brace hoops, instead of the old-fashioned perforations in the hoops themselves, for securing the bracing cords.¹⁹

Even though this description certainly does not describe a rod drum, as Gura and Bollman observe, it shows Boucher's interest and experimentation with improvements to the drum-tension system.²⁰ Boucher's reluctance to use his rod-tension system on drums may suggest that the market in America during the 1850s was not ready for this innovation. American drummers would have been aware of the rod-tension drums being built in Europe and both European and American banjo makers were using the same technology. American drum makers and players continued to utilize rope-tension drums, almost exclusively, until well after the Civil War.

V. Prussian Drums

Shallow-shell drums had been familiar to European drummers at least since 1854, when Henry Distin introduced a British patent showing a side drum that appears to have a depth of about seven inches.²¹ The patent, which makes no specific mention of the drum's dimensions, introduced a new way to secure a drum to a player's leg. The Potter drum, NMM 10,293, has a shell height of 188 mm (seven and one-half inches). These smaller instruments being built and used in England were soon common in continental Europe and were especially fitted to the Prussian army and their unique style of marching.

Prussia was becoming a dominant power in Europe during the mid-nineteenth century. The country's influence grew, as it began to unite German speaking peoples into a single state during both the Austro-Prussian War and the Franco-Prussian War. The Prussian parade march or *Paradeschritt* was an unusual, but very fierce, march, with straightened legs raised high and toes pointed. This style of marching had been recorded as early as the seventeenth century, but came into its own with the Prussian army of the mid to late 1800s. The slow deliberate march was to become known as the goose-step, and was still in use by Hitler's troops during World War II.²²

With the introduction of rod-tensioning and shallow-shell drums, the Prussians were able to make side drums that had the desired sound and could facilitate the goose-step. Examples of these drums can be found in the Germanische Nationalmuseum in Nürnberg,²³ and in the Musikinstrumentenmuseum der Universität in Leipzig.²⁴

Prussian drums began appearing in catalogs of American importers such as John F. Stratton in the 1880s and over the course of the next few decades Prussian drums could be found in catalogs by Lyon & Healy, J. W. Pepper, and H. C. Barnes and C. G. Conn.

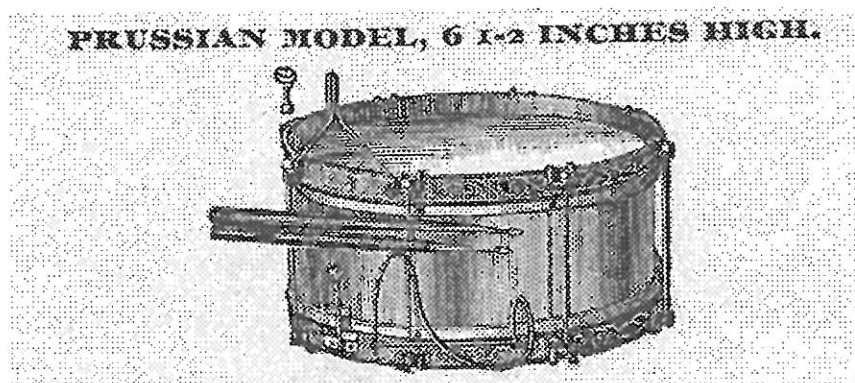


Figure 8. John F. Stratton & Co. Catalog, between 1881 and 1885.²⁵

This is how the Stratton catalog from about 1886 describes Prussian drums:

They have Rods with Screw and Key for Tightening Head instead of Cord, Hook for Belt, Knee Rest, Snare Strainer, Two Calfskin Heads, and good Rosewood Sticks. This style of Drum is used altogether in the Prussian Army Bands and Drum Corps, hence the above name.²⁶

The drum was offered in a variety of shell materials, including brass, nickel-silver, nickel-plated brass, mahogany, bird's-eye maple, white holly, and rosewood, but always featured very sturdy metal-tension rods with either screw or nut heads that the player could adjust. Practically identical drums are featured in German trade literature, like a Prussian drum that appears in an advertisement for the Trommel-fabrik Weissenfels owned by Johannes Link in Weissenfels an der Saale, about 1900.

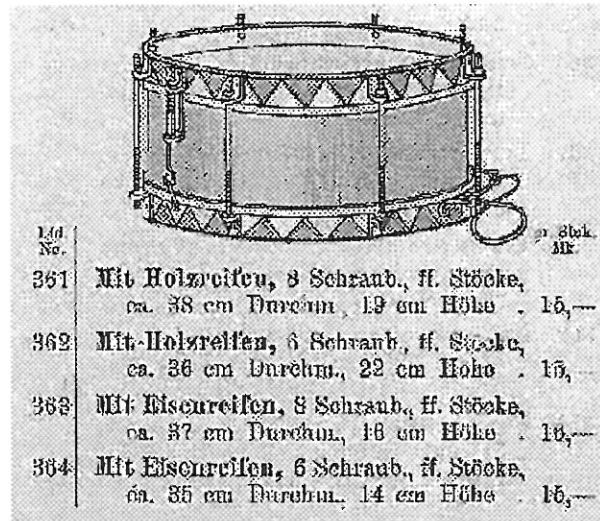


Figure 9. Johannes Link catalog, ca. 1900.
Prussian drum.²⁷

Link began building drums in 1875 and was one of the major exporters of these drums to the American market during the last few decades of the nineteenth century.²⁸ Prussian drums were used as late as World War II by German military bands. NMM 407, dated 1942, is one of these later drums.

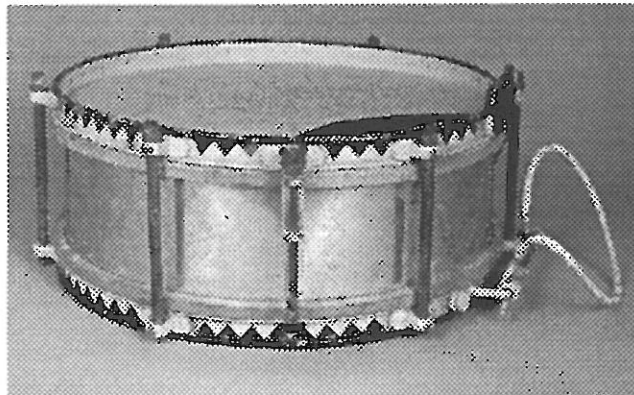


Photo 5. NMM 407.
Made by Sonor Drum Company, Weissenfels an der Saale, 1942.

The Museum's drum is almost identical to descriptions found in advertisements from the nineteenth century. There are six rod screws (with triangular shaped nuts for adjusting) and a metal shell that measures 167 mm (approximately 6-1/2 inches) high by 369 mm (14-1/2 inches) in diameter. Below

the vent hole is stamped: *Johs. Link / WEISSENFELS / 1942 / 88*. Just as in the advertisement, NMM 407 also features a metal leg rest that sits against a player's upper thigh. This leg rest holds the drum in a more stable position than the traditional sling.

American makers also made their own Prussian Model drums. These drums were all slightly different, but they used the same sturdy tensioning rods and had shallow shells. They also used some form of a leg rest rather than a sling. An American Prussian model drum is pictured in the 1881 Lyon and Healy catalog.

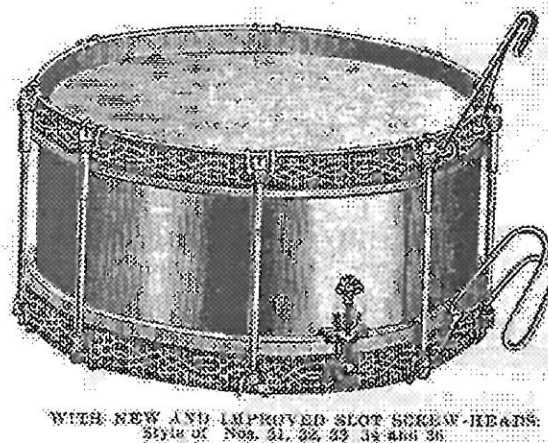


Figure 10. Drawing in 1881
Lyon and Healy catalog.²⁹
Prussian Drum.

The Museum has this exact same model drum with a rosewood shell (NMM 2876, p. 131). The Museum's instrument is not signed, but the hardware is identical to that found on the Prussian drum featured in the Lyon and Healy catalog. The ash rims are decorated with a painted scroll pattern. The shell has an eagle and shield decal. Similar decals can be found on instruments by other musical instrument distributors (see NMM 2876 and NMM 225, p. 196).



Photo 6. NMM 2876.
Prussian drum, attributed to
Lyon and Healy, ca. 1900.

Prussian drums were the first drums utilizing metal rods that were available to the average American drummer. The Prussian drums also had a much shorter shell height than the traditional rope-tension drums with which the drummers were familiar. These drums would certainly have affected the American public's concept of a snare drum sound.

VI. The First Orchestral Drums in America

Since most orchestral composers until the mid- to late-nineteenth century only used side drums to mimic military music, the same drums were used both in the concert hall and outdoors. Hector Berlioz, in his *Treatise on Instrumentation* (1848),³⁰ did not make a distinction between drums used in orchestral playing and those used by military ensembles.

In the 1881 Lyon and Healy Band Instrument Catalog, rope-tension snare drums were offered with fourteen- and sixteen-inch shell heights.³¹ Likewise, a Stratton catalog from between 1881 and 1885 offered a variety of rope-tension snare drums with shell heights that measured from ten inches to sixteen inches.³²

Both companies also sold Prussian Model drums with shell heights of between six and seven inches. It is about this time that American manufacturers begin to use the term, snare drum, as a generic term for all drums with snares (see Terminology, p. 6).

By 1886, Lyon and Healy offered a product called an orchestra drum.³³ This new drum, which was offered in both rope and rod tension, had a shell height of as little as four inches. Stratton was also selling a shallow-shell orchestra drum in a catalog from between 1886 and 1888. Stratton's drum was only available with rope-tension and a seven-inch-deep shell.³⁴ Within a matter of a few years, all of the musical instrument wholesalers that sold drums were offering similar drums marketed for the orchestral drummer.

The Lyon and Healy orchestra drum is quite similar to their Prussian model drums, such as NMM 2876. The shell height is very short (even smaller than the Prussian drums) and the same sturdy rods are used. The same leg rest is even shown on the orchestra drum model.



Figure 11. Drawing from Lyon and Healy catalog, 1886.

It is easy to conclude that American drummers who had been exposed to Prussian style drums since at least the 1870s used them both in marching and

concert situations. The players would have discovered that the shallow shell instruments worked especially well in orchestra and concert band situations. The drum manufacturers then began producing drums marketed specifically for those ensembles. By the last decade of the nineteenth century, orchestra drums were as common in trade catalogs as the larger side drums.

Notes

1. James Blades, *Percussion Instruments and Their History* (1970; reprint, Westport, Connecticut: The Bold Strummer, 1992), 297.

2. Other than the New York Philharmonic whose roots date back to 1842 (www.newyorkphilharmoci.org), most American cities did not have major orchestras until late in the nineteenth century. They include: Boston, (1881, www.bso.org); Chicago (1891, www.cso.org); Pittsburgh (1896, www.pittsburghsymphony.org); and Philadelphia (1900, www.philorch.org). Baltimore did not have a major orchestra until 1916 (www.baltimoresymphony.org).

3. Ward, C., inventor, *Musical Drums*, British patent 7505, 9 December 1837.

4. Leedy Manufacturing Company, *Drums Catalog H* (Indianapolis: Leedy Manufacturing Co., 1916), 9.

5. Georges Kastner, *Manuel général de musique militaire*, (Paris: Didiot Frères, 1848), plate 19.

6. Malou Haine and Ignace De Keyser, *Catalogue des instruments Sax au Musée Instrumental de Bruxelles* (Brussels: Musée instrumental, 1980), 152.

7. Garofalo and Elrod, 96. According to Mark Elrod the original is in the Old Guard Museum, Fort Meyer, Virginia.

8. Laurence Libin, *American Musical Instruments in the Metropolitan Museum of Art* (New York: W.W. Norton & Company, 1985), 170.

9. The date of this banjo is based on the style of decoration and the fifth string tuner pointing backwards. E-mail to the Museum from Calvin Miner, Gruhn's Guitars, Nashville, 8 May 2002.

10. Libin (p. 109) says that Boucher moved before 1845. Caba (p. 80) says that Boucher Sr. operated a shop at 11 Holiday street, Baltimore in the 1840s.

11. Phillip Gura and James Bollman, *America's Instrument; the Banjo in Nineteenth Century America* (Chapel Hill: University of North Carolina Press, 1999), 269.

12. Laurence Libin, *American*, 109.

13. The one exception being at the Metropolitan Museum of Art. Gura and Bollman, 269, state that this banjo was not originally built this way, but rather the neck stamped by Boucher must have been added later to this gourd bodied instrument.

14. The document is in the possession of Boucher's descendants. The author is indebted to Laurence Libin for relating the text in an e-mail dated 3 January 2003.

15. Used with permission. The Long Island Museum, Stony Brook, New York, Gift of Mr. And Mrs. Ward Melville, 1955.

16. Martha V. Pike, "Catching the Tune: Music and William Sidney Mount," *Catching the Tune: Music and William Sidney Mount*. Ed. Janice Gray Armstrong (Stony Brook, New York: The Museums at Stony Brook, 1984), 12-13.

17. Laurence Libin, "Instrument Innovation and William Sidney Mount's 'Cradle of Harmony,'" *Catching the Tune: Music and William Sidney Mount*. Ed. Janice Gray Armstrong (Stony Brook, New York: The Museums at Stony Brook, 1984), 56-65.

18. Elrod & Garofalo, 27 and 49. There is also a Boucher drum at the Maryland Historical Society in Baltimore (Libin, *American* 109). Two are listed in Caba, one in a private collection and one unidentified, 80.

19. Gura and Bollman, 269.

20. Ibid.

21. Distin, H., inventor, *Improvements in drums for musical purposes and in the mode of supporting and keeping them in the required position when in use.*, British patent 7505, 27 May 1854. Measurements are estimated by Jeremy Montagu. Jeremy Montagu, Oxford, e-mail to the author 25 February 2003. The drum shown in the patent seems to be very similar to NMM 10,293, with metal turnbuckles that pull on a rope.

22. Norman Davies, *Europe: A History, A Panorama of Europe, East and West, From the Ice Age to the Cold War, from the Urals to Gibraltar*, (New York: HarperPerennial), 1997, 612.

23. John Henry Van Der Meer, *Verzeichnis der Europäischen Musikinstrumente im Germanischen Nationalmuseum Nürnberg.*, Band I, Hörner und Trompeten, Membranophone, Idiophone (Wilhelmshaven: Heinrichshofen's, 1979), 108.

24. Birgit Heise, *Katalog Membranophone und Idiophone: Musikinstrumentenmuseum der Universität Leipzig* (Halle an der Saale: Janos Stekovics, 2002), 86-87.
25. John F. Stratton, *John F. Stratton & Son Manufacturers of Brass Band Instruments* (New York: John Stratton, ca. 1881-1885), 11.
26. John F. Stratton, *Illustrated and Descriptive Catalogue of Musical Instruments* (New York: John Stratton, ca. 1890), 161.
27. Rob Cook, *The Complete History of the Leedy Drum Company* (Fullerton, California: Centerstream, 1993), 16.
28. Sonor Museum, *The Unofficial Sonor Virtual Museum*, <http://www.sonormuseum.com>; accessed 16 June 2003.
29. Lyon and Healy, *Illustrated Band Instruments, Trimmings, etc. for Sale By Lyon and Healy* (1881; reprint, Ann Arbor, Michigan: Jack Werner, 1995) 74.
30. Hector Berlioz, *Treatise on instrumentation* (1848; reprint, New York: Kalmus, 1948), 397.
31. Lyon and Healy, 74.
32. John F. Stratton, ca. 1881-1885, 11.
33. Lyon and Healy, *Illustrated Catalogue of Drums, Fifes, Flutes, Bugles, Etc.* (Chicago: Lyon & Healy, 1886), 16.
34. John F. Stratton, *John F. Stratton & Son Manufacturers of Brass Band Instruments* (New York: John Stratton, between 1886 and 1888), 17.

Chapter Three

American Innovations and Separate Tension Drums

I. Growth of the Musical Instrument Industry

The last quarter of the nineteenth century was, as a whole, one of the Nation's most prosperous, despite a series of economic slowdowns.¹ Between 1880 and 1900, the annual aggregate value of all manufactured goods in the country increased from \$5.4 billion to \$13 billion. The expansion of the iron and steel industry, a key factor in an industrialized economy, rose from 1.4 million tons to 11 million tons during the same time.² The exploitation of the vast resources of the American West, along with new manufacturing techniques, such as the creation of the Bessemer process for manufacturing steel, drove the American economy.

Entrepreneurs saw their opportunity to become successful by starting their own companies, and numerous inventors like George Westinghouse, Thomas Edison, and Alexander Graham Bell introduced inventions that revolutionized American work and leisure. The number of patents for which application was made in the United States grew from 883 in 1850 to 12,926 in 1880 and a staggering 24,656 in 1900.³ America was soon producing some of the best and most sought after products in the world.

The production of musical instruments also became big business. The importance of the music trades was illustrated by President Grover Cleveland's presence as key-note speaker at the opening of the Chickering Piano Factory in Boston in 1887. Cleveland said that the building was "the largest industrial

facility of its type in the country, and a marvel of the age.”⁴ The large piano makers, Chickering and Steinway, introduced innovative designs that soon surpassed the products of their European competitors.

American wind and plucked stringed instruments saw, respectively, the emergence of new companies such as the C. G. Conn Company of Elkhart, Indiana (founded in 1874), and the growth of existing manufacturers like the C. F. Martin Company of Nazareth, Pennsylvania (founded in 1833 in New York). Both firms became dominant in their markets by the end of the nineteenth century. Progressive ideas and high-quality instruments quickly gained these companies market share and loyalty from customers. Great innovators and manufacturers of drums would soon follow.

Drummers and drum makers were also adjusting to changes in musical tastes that called for drums to function in drastically different ways. In addition to the formation of orchestras and community bands discussed earlier, vaudeville, which evolved from the earlier minstrel shows, was growing in popularity.

Vaudeville required troops of musicians. The variety acts that made up vaudeville shows called for the use of percussion contraptions (sound effects) or “traps.” Each show would require at least one and sometimes as many as three drummers. Ingenious players developed pedals that allowed one drummer to play the bass drum, snare drum, cymbals, and traps all together. The trap (or drum) set was born. The atmosphere was set for the emergence of an American drum industry that would create novel instruments and designs for these new markets.

II. Separate-Tension Rope Drums

All of the drums discussed thus far have been single-tension instruments. When a rope or rod is tightened on a single-tension drum, it adjusts the tension on both heads equally. This is not ideal, as the batter head, which receives the blows from the sticks, should be made of thicker calfskin to withstand the force of playing. The skin used on the snare head, however, should be much thinner so it can vibrate easily against the snares. At least by the early twentieth-century, the snare head was usually made of a slunk (unborn calf) skin, which is more fragile than the batter head.⁵ Due to the unequal thickness of the skins, the amount of tension each head can sustain is vastly different.

In addition, the tension should be greater on the batter head in order to give a quick response (rebound of the sticks) to the player and to obtain the clearly articulated sound that was now the standard. The snare head should be looser so as to vibrate easily against the snares and create the drum's characteristic buzzy sound. In the Ludwig & Ludwig catalog from 1912, William F. Ludwig writes:

The control of the snare and batter heads must be independent of each other if the performer would have a drum that works well . . . A brief review of the working principles of a drum will readily make this clear.

While the batter head receives the impression of the stroke, it is the vibration of the snare head against the snares that produces the sound, said vibration being caused by concussion transmitted from the batter head. Perfect vibration is an absolute necessity to good drum tone. As some of the force is necessarily lost in transmission from head to head on any kind of a drum, the batter head should always be given a little more tension than the snare

in order to transmit the stroke in full and yet retain enough force to properly rebound the sticks.⁶

The option to adjust the heads independently did not exist on mid-nineteenth century drums, and a compromise was always necessary. Too little tension on the batter head would produce a dull, inarticulate sound. Too much tension on the snare head would make a tight, choked sound, and could cause the head to break.

Several American drum makers saw these limitations early on and tried to offer solutions. Two of the earliest patents for separate-tension drums were granted in 1863 to men living in Louisville, Kentucky. The first patent was granted to John Dermond for the invention of a drum with a separate-tension rope mechanism.

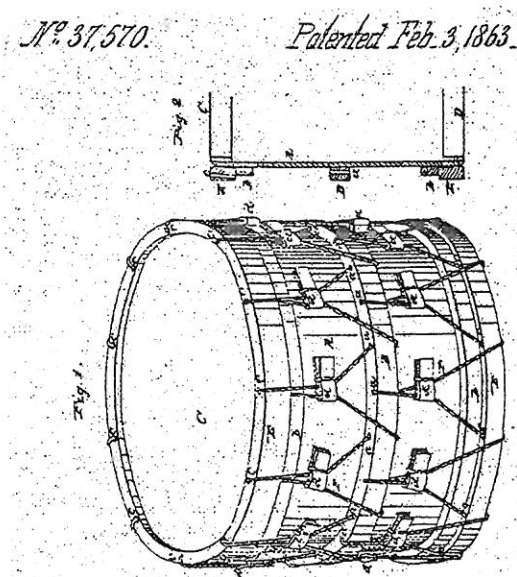


Figure 1. John Dermond patent drawing.
U. S. Patent Number 37,570. 3 February 1863.

The patent shows the standard design for a rope-tension drum with the addition of a wooden hoop that circles the exterior of the drum shell. The ropes,

instead of zigzagging from one rim to the other, loop through this center hoop and return to the same rim. The ropes never cross to the other head. There are two sets of ropes, two sets of leather tugs, and two independent tensioning systems. A separate-tension drum was created.

John Dermond writes the following in the patent description:

This invention relates to a new and useful improvement in military, side, or small drums; and it consists in constructing the drum in such a manner that its head and "reverse" may be "braced" separately, or independently of each other, thereby preventing the reverse, which is the head not beaten upon and which is generally formed of inferior material, from being unduly strained, a contingency which is liable to occur in drums of ordinary construction in bracing the head proper, in consequence of one bracing cord being connected to both the head and the reverse to be braced simultaneously, and the latter to be unduly strained or stretched before the former is brought to a proper degree of tension to insure a good or perfect tone.

The second patent was awarded to Johnson Mason in June 1863. Mason's design is similar to that of Dermond, but instead of a wooden hoop, Mason uses metal hooks that are mounted on the shell. The rope, after attaching to the rim, loops over the shell-mounted hook and returns to the same rim, never crossing to the opposite rim. Again, there are two sets of ropes, two sets of leather tugs, and so on.

Mason writes in his patent:

This invention relates to an improvement in straining the heads of the drum, whereby the heads may not only be strained separately but with equally as great facility as in the old mode of construction, and without rendering the drum any more cumbersome.

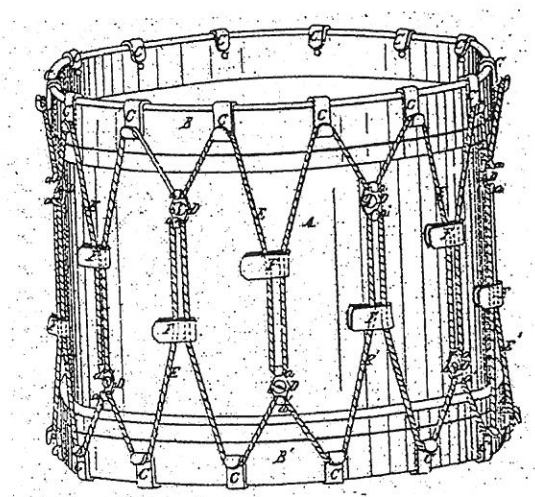


Figure 2. Johnson Mason patent drawing,
U. S. Patent Number 39,058. 30 June 1863.

The idea for a separate-tension rope drum is rather unique. Mason's patent is essentially an improvement on the earlier one. Since both inventors were from Louisville and the patents were granted in the same year, it is likely that Mason was familiar with Dermond's patent. However, the rest of the country and drum profession was not aware of these innovations, and this novel idea was never widely accepted. Separate-tension rope drums, if any were even built, were never used by a significant portion of the drumming population.

III. Separate-Tension Rod Drums

Another separate-tension patent attempt was filed by Thomas Rawson of Williamsburg, New York, in 1874. In his patent, Rawson writes:

My invention has for its object to furnish an improved device for straining drums which shall do away with the cords and leather ears which are now used for this purpose.

The patent drawing shows a drum that utilizes metal hooks that pull down on the rims. There are short rods that are tensioned by a drum key (shown in his

patent) and metal brackets that receive the rods. The brackets are mounted near the heads of the drum. This design allows for the drum heads to be independently tensioned, although that purpose was not stated in Rawson's text.

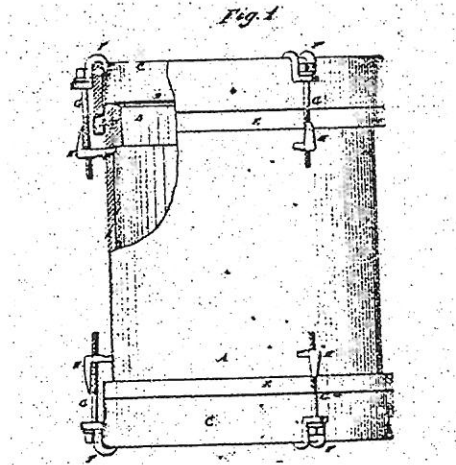


Figure 3. Thomas Rawson patent drawing,
U. S. Patent Number 151,797. 9 June 1874.

Other than his patent, nothing is known of Rawson, and none of his drums are known to survive. This drum, if actually made, may have been the earliest example of a separate-tension rod drum produced in America. However, it would seem that his ideas were premature for the American market. It would be almost a decade before a drum manufacturer was able to market a separate-tension rod drum commercially.

IV. Emile Boulanger and the Duplex Drum Company

Perhaps the most innovative drum maker in late-nineteenth-century America was Emile Boulanger of St. Louis, Missouri. The first Boulangers listed in the St. Louis city directory were brothers Louis and William, who were watchmakers with a business on 5th Street. In 1864, Louis, Emile's father, is listed as a violin maker. Louis and Emile can both be found in the 1869

directories as musical instrument makers and repairers. In 1873, Louis and Emile are listed as hand organ makers living at 1321 5th Street. By 1878, Emile is listed by himself as a clerk at Nicholas Lebrun's music store, becoming a foreman there by 1880.⁷

Emile Boulanger began building drums in 1882, and applied for his first patent in August of that year. The patent, granted on April 3, 1883, describes the invention in the following terms:

My invention relates to improvements in drums in which a series of hooks and rods are employed instead of the system of cords and sliding knots of leather to obtain the tension for the drum-heads.

The objects of my improvements are to provide means whereby the tension of the respective drum-heads can be achieved independently of each other – that is to say, the “batter-head” can be tightened and its tension regulated independent of the means employed to similarly operate the “snare-head,” or the latter can be tightened and regulated independently of the batter head and otherwise by my improvement the tension, straining, or tightening of both said drum-heads can be achieved to suit the operator...

While Rawson used short rods which screwed into sockets mounted near the rims of the drum, Boulanger uses center mounted sockets (posts) that receive the rods from each head. Boulanger's rods also can be adjusted by a drum key or tuning wrench. When the rods are tightened, they pull down on hooks that pull down on the rims.

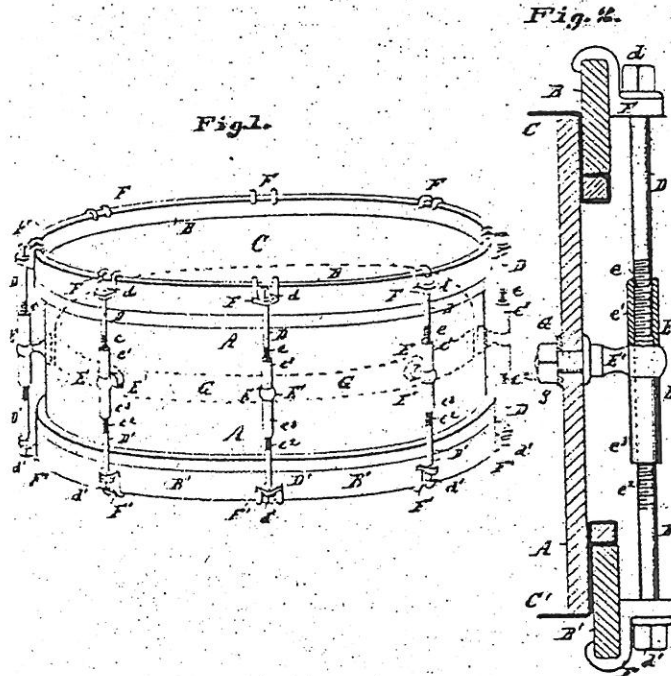


Figure 4. Emile Boulanger patent drawing.
U. S. Patent Number 274,900. 3 April 1883.

Boulanger founded the Duplex Drum Manufacturing Company on September 13, 1901, with a capital stock of \$2,000; however, he had been producing drums since the 1880s.⁸ There are many surviving drums and advertisements that show his innovations. A particularly early model is at the Percussive Arts Society (PAS) Museum in Lawton, Oklahoma. This drum features the center-mounted posts and a perforated metal shell.

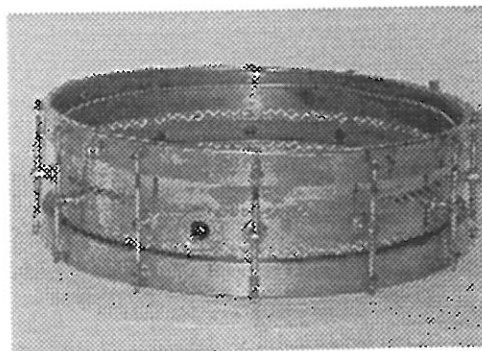


Photo 1. Duplex drum, PAS No. 1995-01-02, ca. 1895.

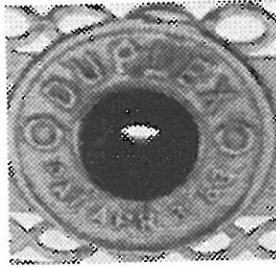


Photo 2. Duplex drum, PAS No. 1995-01-02, ca. 1895.
Badge.

Emile Boulanger was granted a second patent in October 1887.⁹ In this patent he devised a method for mounting the rods to the outside of the rims.

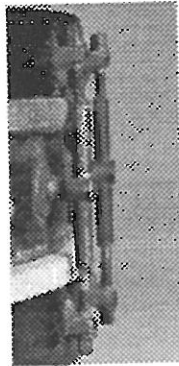


Photo 3. NMM 9512, between 1900 and 1910.
Duplex drum with sleeves mounted to rims.

Small threaded “sleeves” are affixed to the drum shell and the rods pass through them into the center post. This method of applying tension to the rims is a signature of the Duplex company and can help to identify their drums. It can be found on two drums at the PAS Museum and on NMM 9512.

Boulanger continued to make drums with both claw hooks and rim-mounted sleeves. In both an 1896 catalog from the Carl Fischer Company and a 1906 catalog from Lyon & Healy,¹⁰ Duplex drums are featured with both methods.

DUPLEX DRUMS.



No. 108.



No. 116 & 121.

Figure 5. Carl Fischer Catalog, 1896.¹¹

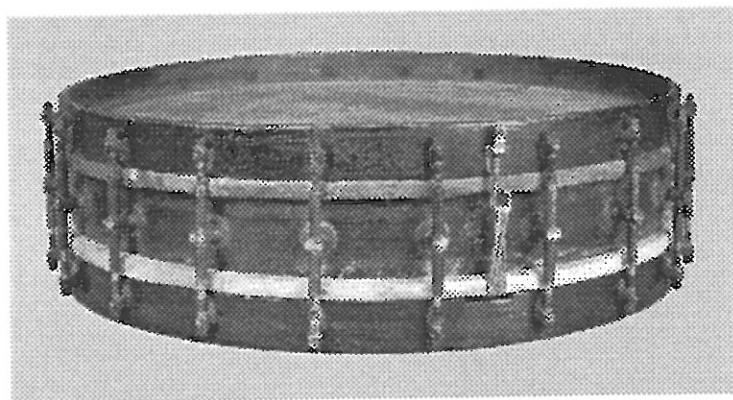


Photo 4. NMM 9512. Wood snare drum by Duplex, St. Louis, between 1900 and 1910.

A Duplex snare drum in the Museum's collection (NMM 9512) has a maple shell and rims with rosewood veneer. There are eighteen rods for each drum head mounted in center posts. The rods pass through Boulanger's sleeves, which are screwed into the rims.

Emile Boulanger and the Duplex Manufacturing Company continued to be at the forefront of drum making in America for the remainder of the nineteenth century. Boulanger patented a snare strainer in 1892,¹² and in 1896, a muffling device that rested against the inside of the batter head in order that "the vibrations may be regulated to suit the drummer."¹³

Despite the company's many innovations, it never became a large factor in the drum manufacturing industry. This was partly due to a devastating depression in the 1890s, but it may have also been because of the high price of Duplex drums compared to drums by other makers. In the 1896 Carl Fischer catalog, the most inexpensive drum sold by Duplex, a snare drum featuring Boulanger's claw hooks and rods, was \$34.25. The most expensive drum, a perforated metal-shell drum, was \$66.00.¹⁴ In that same year, the most expensive drum in the Stratton catalog, a rope-tension orchestra drum, was \$17.00. A band drum could be purchased for \$7.00.¹⁵ The Duplex company must have realized it had to lower its prices to compete. By 1906, a Duplex snare drum could be purchased from *Lyon and Healy's Musical Hand Book* for a mere \$15.75.¹⁶

In 1932, the famous twentieth-century drum manufacturer and player, George Way, described the Duplex Company in the following words:

Duplex Manufacturing, Inc. This is the oldest drum shop now in existence, being about 45 years old. It is very small, employing only five people. They only make metal snare drums, pedals, and a few holders. Their wood drums, both snare and bass, are assembled products. However, they have three or four outstanding articles that keep them going. The biggest year they ever had was around \$20,000.00.¹⁷

The J. W. Pepper Peerless Drum

One of the oldest families in American drum manufacturing in the late nineteenth century was the Soistmann family of Philadelphia. The activities of C. and F. Soistmann were discussed briefly in Chapter One.¹⁸ Adolph G. Soistmann

was probably the son of one of the above mentioned Soistmann brothers.¹⁹ He had his own drum shop in Philadelphia that moved several times during the 1880s. Sometime about 1890, James Walsh Pepper, a successful distributor of sheet music and musical instruments, acquired controlling interest in the Soistmann drum shop and moved it to a building close to his factories at 8th and Locust Streets.²⁰

Soistmann and Pepper patented a remarkable drum design in 1892. The design uses wires to create a separate-tension drum. The drum has a set of eight shell-mounted studs, which support a wire network around the drum. A wooden center-support ring circles the outside of the drum and guides the wires through a series of nuts. Rods attach to the wires and hook onto the rims. At the top of the rod is a screw that is tightened to pull on the hook that pulls down on the rim.²¹

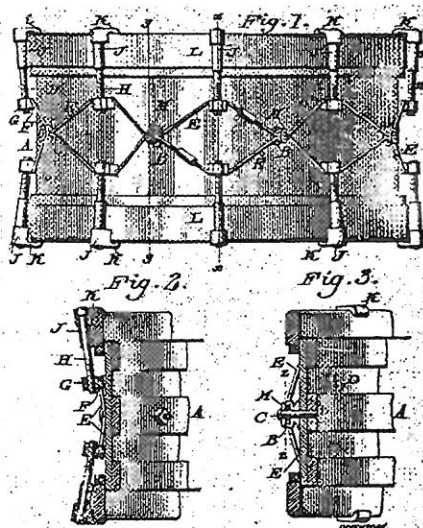


Figure 6. Adolph G. Soistmann and J.W. Pepper patent drawing.
U. S. Patent Number 478,378. July 5, 1892.

The National Music Museum is home to two of these Pepper drums. The earliest dates from about 1900 (NMM 10,143) and the second dates from about 1910 (NMM 2875).

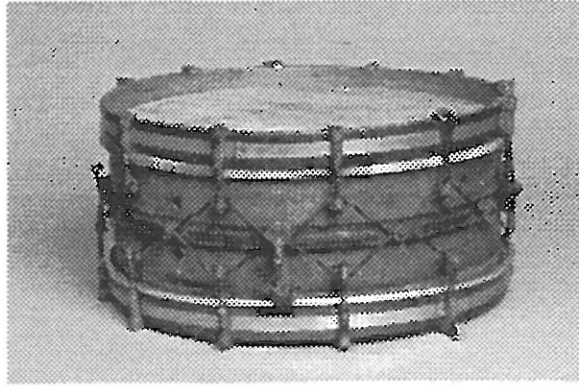


Photo 5. NMM 10,143. Snare drum by J.W. Pepper, ca.1900.

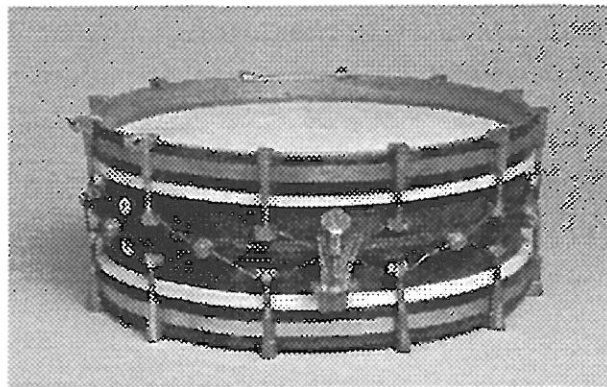


Photo 6. NMM 2875. Snare drum by J. W. Pepper, ca. 1910.

Both drums also feature the 1900 patent for a snare device by Soistmann and Pepper.²² This device, opposite the strainer, allows individual adjustment for each set of snares.

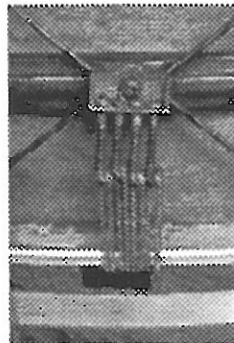


Photo 7. NMM 10,143, ca. 1900.
Snare mechanism opposite strainer.

This instrument was called the Peerless drum and was manufactured for more than twenty-five years. The 1918 J. W. Pepper catalog featured ten different options (including walnut, maple, mahogany, rosewood, brass, or nickel-plated brass shells) available with a four- or six-inch shell height that sold for \$20.40. The 1918 catalog describes the Peerless drum in the following terms:

Its roll is truly a musical ripple; so musical that it is a treat to ears accustomed to the flabby tones of ordinary Snare Drums. And the great strain the twenty-four rods combined put upon the heads gives the tone a body and carrying power that the drummer, with his sticks alone, and without altering any adjustment, can modulate to the right pitch and volume for all the effects demanded in the theatre, the dance, or the parade. There's no limit to its range of modulation; it is the most versatile Drum ever devised.²³

The J. W. Pepper Company was one of the larger manufacturers and distributors of music and musical instruments in the country in the last part of the nineteenth century, although the company was hit especially hard during the economic depression of the 1890s. On the cover of its 1904 Christmas issue of J. W. Pepper's *Musical Times and Band Journal*, a monthly periodical published by the company, Pepper boasts of having had between fifty - and sixty -thousand satisfied customers. On the same cover, Pepper proclaims:

Every style of Drum which we advertise is made in our own factories, and they are fitted with patented devices which can not be found on any other Drums.²⁴

The Pepper company was able to reach a very large audience with its catalogs and advertisements. The company influenced the perceptions of drummers across the country to a much larger degree than any of the previous

American drum innovators. Their Peerless drum design, for the first time, presented thousands of drummers with the option of a separate-tension snare drum.

Notes

1. Lichtenstein, Nelson; Susan Strasser and Roy Rosenzweig, *Who Built America? Working People and the Nation's Economy, Politics, Culture and Society*, Vol. 2, since 1877 (New York: Worth Publishers, 2000), 26.

2. *Encyclopedia Britannica*, 1984 ed., s.v. "United States, History of the."

3. U.S. Patent Office, *United States Patent and Trademark Office Home Page*, <http://www.uspto.gov>; accessed 16 June 2003.

4. Majeski, Brian T, ed., "1890 – 1899: The American Music Industry Comes of Age," *The Music Trades 100th Anniversary Issue* (Englewood, New Jersey: The Music Trades, 1990), 29.

5. William F. Ludwig II, interview by author, Oak Brook, Illinois, 13 June 2002.

6. Ludwig and Ludwig, [1912] *Ludwig & Ludwig: Manufacturers of Drums and Accessories* (Reprint, Anaheim Hills, California: Cedar creek, n. d.) 12-13.

7. The author is indebted to Dina Young, Associate Archivist, Missouri Historical Society, St. Louis, for her help in obtaining this information from the city directories.

8. Kenneth A. Mezines, *St. Louis Duplex Drum Company 1882 to 1968* (original typescript, Missouri Historical Society, St. Louis, n.d.) 3.

9. Boulanger, E., inventor, *Drum*, U. S. Patent Number 371,415, 11, October 1887.
10. Lyon and Healy, *Lyon & Healy's Musical Handbook* (Chicago: Lyon and Healy, 1896), 187.
11. Carl Fischer, *Carl Fischer: Instruments of Every Description. Wholesale and Retail* (New York: Carl Fischer, 1896), 49.
12. Boulanger, E., *Device for Adjusting Drum Snares*, U. S. Patent Number 480,064, 2 August 1892.
13. Boulanger, E., *Drum*, U. S. Patent Number 573,320, 15 December 1896.
14. Carl Fischer, 49–50.
15. John F. Stratton, *John F. Stratton & Son, Manufacturers of Brass Band Instruments* (New York: John Stratton, between 1886 and 1888), 17.
16. Lyon and Healy, 187.
17. Rob Cook, *The Slingerland Book* (Alma, Michigan: Rebeats, 1996), 30.
18. See Lloyd Farrar, "Under the Crown and Eagle," *Newsletter of the American Musical Instrument Society* 16, No. 1 (1987): 3-4.
19. According to Farrar the exact relationship is unclear, p. 4.
20. Ibid.
21. C. G. Conn introduced a snare drum in 1886 that had a similar look, featuring V rods, although Conn's design was single-tension until 1904. See NMM 2996, p. 137.
22. Soistman, A. and J. W. Pepper, inventors, *Drum*, U. S. Patent Number 641,901, 23 January 1900.

23. J. W. Pepper and Son, *Catalog of Musical Instruments and Their Accessories* (Philadelphia: J. W. Pepper and Son, 1918), 25.

24. J. W. Pepper, *Musical Times and Band Journal* 19, No. 217 (Philadelphia: J. W. Pepper, December 1904), 1.

Chapter Four

The Emerging American Drum Industry

I. Leedy Drum Manufacturing Company

In the late nineteenth century, most drums in the United States were being produced by manufacturers of other goods. The largest domestic producers of drums were J. W. Pepper,¹ Lyon and Healy,² and C. G. Conn.³ However, drum manufacturing was only a portion of the business done by these companies. Other companies, such as Carl Fischer, distributed imported instruments or drums built by small drum shops.⁴ There was no specialized large manufacturer of drums.

In 1896, Ulysses Grant Leedy, a percussionist, began making drums with the help of his father, in Indianapolis, Indiana. The elder Leedy was a cabinetmaker and had the skills necessary to make drum shells.⁵ In 1897, Leedy convinced his roommate, Sam Cooley, a clarinetist, to help finance the opening of the Leedy-Cooley Manufacturing Company. This relationship was later dissolved, and the Leedy Drum Manufacturing Company was established in 1900.⁶

The Leedy Company was unique because it specialized in producing drums and offered a full line of percussion instruments within a couple of years. An article in *The Music Trades*, July 11, 1903, says that the company makes ". . . band and orchestra drums, tympanies, bells, chimes, xylophones, etc. . . ." ⁷

Leedy seems to have established a dealer network to help distribute his products. Not much is known about these dealers during the first few years of the

company, but William F. Ludwig II remembers that his father was a Leedy dealer in Chicago at the time.⁸ Leedy's network of dealers and the quality of his instruments helped to build Leedy into a large drum company relatively quickly.

As Rob Cook explains in *The Complete History of The Leedy Company*:

Although sales records for the period from 1900 to 1914 did not survive, it is clear that Leedy Manufacturing charted a rather spectacular growth curve, with sales nearing \$100,000 in 1914.⁹

A typical example of the drums produced by the Leedy company is in the Museum's collections (NMM 804). Built about 1915, it is single tensioned, with fourteen thumb-rod screw lugs that do not require any special equipment for the player to adjust. The thumb-rod screws project below the snare rim so that the player can easily adjust them. Drums similar to this were made in a variety of sizes for use in orchestral, band, and vaudeville groups.¹⁰

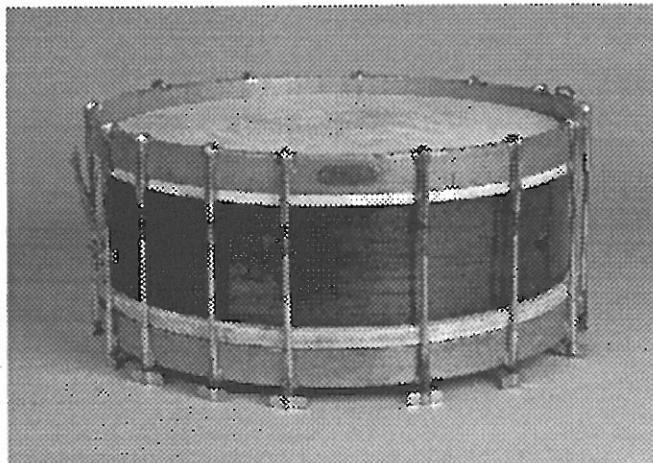


Photo 1. NMM 804. Made by Leedy Manufacturing Company, Indianapolis, ca. 1915.

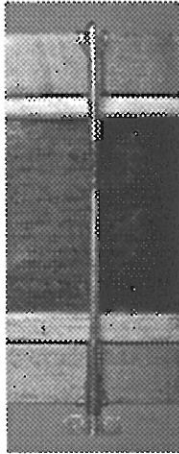


Photo 2. NMM 804. Made by Leedy Manufacturing Company, ca. 1915.
Thumb-rod screw.

The drum has a walnut shell and maple rims. In the company's catalog in 1900, Leedy expresses his opinions about what qualities a good drum should possess:

Our drums are not made of veneer (as ordinarily seen), but are solid, steam bent wood shells, thereby producing a quality and quantity of tone that cannot be had with metal or veneer. We claim that a solid wood shell is not nearly so susceptible to atmospheric changes as one made of metal, and instead of that ringing tone (which is not a drum tone) you have a clear, snappy vibration which cannot be equaled by any other make of drum.¹¹

Leedy's drums are very conservative for their time. As late as 1916, all of the drums featured in the company catalogs are single tension.¹² This is rather surprising, since Duplex, Lyon and Healy, and J. W. Pepper had all been selling separate-tension instruments since the last decade of the nineteenth century (see Chapter 3).

II. The Tom Mills Drum



Photo 3. NMM 10,091. Probably made by Trommel-fabrik Weissenfels, Weissenfels an der Saale, ca. 1900.

In Chicago, the young drummer William F. Ludwig purchased a German separate-tension metal drum. Ludwig acquired it from Thomas Mills, who purchased it when he toured Europe with the John Philip Sousa Band in 1900.¹³ Ludwig first heard the drum about 1902 and was very impressed with it. He tried to purchase the instrument from Mills, who at first refused. Rob Cook writes in *The Ludwig Book*:

According to a letter written by Ludwig in 1915, he (Ludwig) had been playing alongside Mills (in Brook's Chicago Marine Band) and was perplexed for days as to why Tom Mills sounded so much better. Ludwig was doing well but knew from the start that he was not doing work equal to that of Tom Mills. "It was not the difference of ability," he wrote, "that had me bested to such an extent, and I felt it." One evening they were playing on a float in the lake at a fireworks display, and Ludwig was having trouble with his drum. He persuaded Mills to let him use his drum for a couple of numbers. The ease with which he played on the drum astonished him.¹⁴

Ludwig writes in *My Life at the Drums*:

I marveled at its tone and power. I saw immediately that, as crude and clumsy as it was, the principle was there so I tried to buy it from Mills. It took a year of pestering but I finally got it from him.¹⁵

Another version of the story, related by Ludwig's son, William F. Ludwig II, is slightly different. In this second version, William F. Ludwig came across Mills about a year or two after first hearing the drum. By this point, Mills had fallen upon hard times. When asked about the drum, Mills produced a pawn ticket and sold it to Ludwig. Ludwig then claimed the drum from the pawnshop.¹⁶

This instrument is now known as the Tom Mills drum (NMM 10,091). It has a brass shell and rims. Each rim has eight rods that screw into posts welded to the rim and shell. The result is a separate-tension rod drum. The design looks rather similar to the American patent by Thomas Rawson in 1874 (see Chapter Three, p. 56). Identical drums can be found in German catalogs from about 1900 (see Figure 1).

William F. Ludwig was so enthralled by the sound of his instrument that he wanted Leedy to produce instruments like it for the American market. William F. Ludwig II relates the following story:

My father always related the story of how he took the Tom Mills brass snare drum down to U. G. Leedy at the plant in Indianapolis and begged the company (Leedy) to manufacture it. But U. G. and family were solidly of the mind that snare drums sound best when constructed of wood and turned the concept down.¹⁷



Figure 1. Advertisement from Trommel-fabrik Weissenfels, Weissenfels an der Saale, Germany, ca. 1895.¹⁸

III. The Ludwig & Ludwig Drum Company

About this same time, William F. Ludwig and his brother, Theobald, invented a drum pedal design for their own use performing in vaudeville shows. Their design proved to be very successful, and soon they were producing the pedals for other drummers. In 1909, they founded their own company, Ludwig and Ludwig, based upon the success of their pedals.¹⁹ The pedal was patented on May 25 of that year.²⁰ The company also sold Leedy drums and other accessories to the general percussionist.

The Ludwig brothers decided to produce separate-tension brass instruments like the Tom Mills snare drum. William F. Ludwig applied for his second patent on September 18, 1909. This patent was for a snare strainer that allowed the player to withdraw the snares easily from the snare head and replace them again (throw-off strainer). Ludwig probably received help from his brother-in-law, R. C. Danly, an engineer, in constructing this drum.²¹ The patent was finally granted on October 29, 1912.

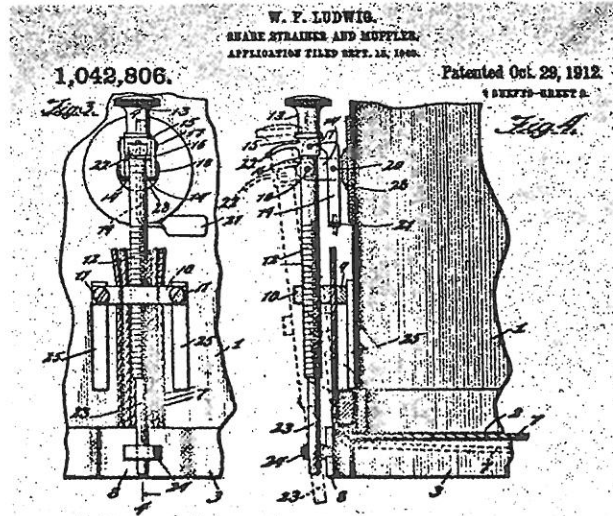


Figure 2. William F. Ludwig patent drawing.
U. S. Patent Number 1,042,806. 29 October 1912.

In his 1909 patent application, William F. Ludwig explains:

My invention belongs to that class of devices known as snare strainers and mufflers²² for drums, and has among its objects the production of a simple, convenient, efficient and satisfactory device of the kind described, in which the snares may be easily strained or released almost instantaneously and it may be adjusted to give the desired tension on the snares.

Ludwig and Ludwig produced their first snare drums about 1910. A drum produced about this time is in the Museum's collections (NMM 2969). Like the Tom Mills drum, it is made entirely of brass. The rods similarly are mounted to both the rim and the shell, but Ludwig and Ludwig devised a long tube that connected the posts. This became known as a tube lug and was used on Ludwig drums for several decades.²³

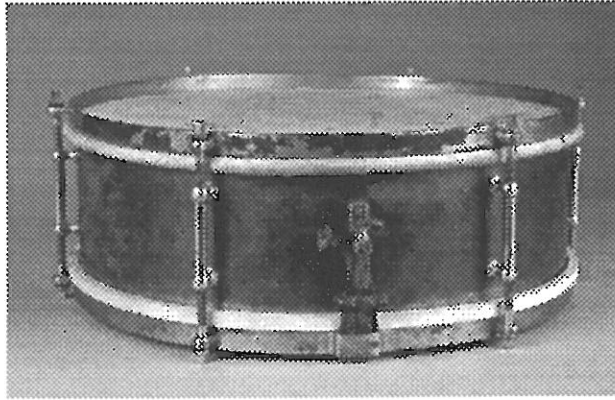


Photo 4. NMM 2969. Made by Ludwig & Ludwig, Chicago, ca. 1910.



Photo 5. NMM 2969. Made by Ludwig & Ludwig, Chicago, ca. 1910.
Strainer.

The strainer differs somewhat in appearance from the patent, but fulfills the function stated in the description. This strainer was marketed as the Combination Strainer, and was the first throw-off strainer sold in the United States. The 1912 Ludwig & Ludwig catalog advertises it with the following:

The efficiency, ease of operation and compactness of the Ludwig Combination Snare Strainer and Muffler is the result of much study and experimental labor. It leaves nothing to be desired, either in allowing a perfectly even and firm adjustment of the snares, or in keeping that adjustment rigid and undisturbed by the movement of the counterhoop in raising or lowering the tension of the heads. It is equipped with a muffling

device to prevent the annoyance of buzzing snares when tympany are used and for rapid tom tom effects. . .

. . . An instantaneous trip off is affected by a slight outward touch on lever or knurled nut with the first finger or tip of drum stick. Tension can be as instantly restored by a slight upward push of the strainer against the shell where it locks.²⁴

The Ludwig & Ludwig company marketed their new drum as the All-Metal Separate Tension Snare Drum in their 1912 catalog and devoted the cover and nine full pages to its drums. The advertising includes lists of players, construction information, and several drawings of the metal drums.

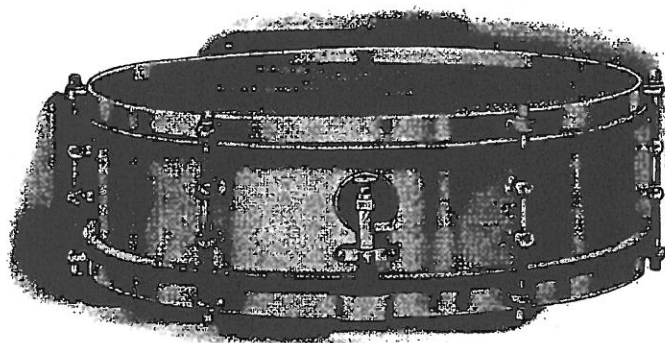


Figure 3. Drawing from Ludwig and Ludwig catalog, 1912.²⁵

IV. Drum Industry Competition

The Ludwig & Ludwig combination snare strainer was a great success.²⁶ Due to the success of the snare drum and the bass drum pedal, the company saw tremendous growth throughout the teens. By the early 1920s, Ludwig and Ludwig surpassed the Leedy company and became the largest drum company in the world. By 1926, they had nearly double the sales of the Leedy company,

selling more than one million dollars worth of percussion products in that year alone.²⁷

Leedy's response to the success of the younger company was to manufacture similar products. Leedy introduced its own throw-off strainer in 1910, and was granted United States Patent Number 1,011,533 on December 12, 1911.²⁸ The strainer was known as the "Utility" model and was used by the company until 1949.²⁹

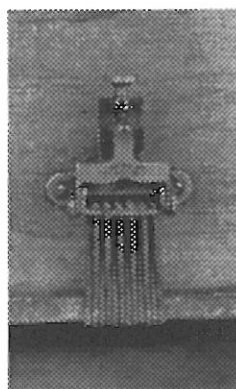


Photo 6. NMM 1056. Made by Leedy Manufacturing Company, ca. 1911.
Utility model strainer.

Leedy also introduced its own metal-shell drums. A drum called the All-in-one drum was pictured in the Leedy catalog in 1916. This drum could be purchased with either a walnut or a nickel-plated brass shell.³⁰

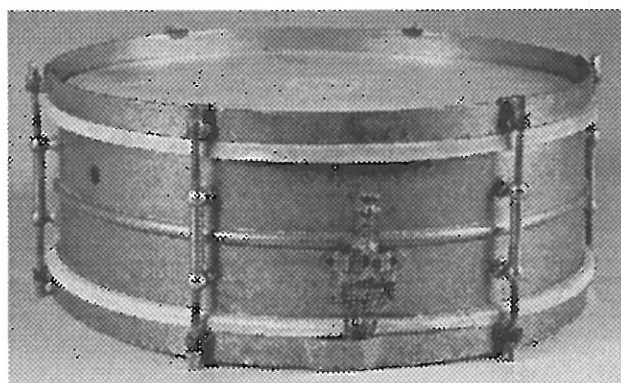


Photo 7. NMM 227. Made by Leedy Manufacturing Company, ca. 1920.

An example of an early Leedy metal-shell drum dates from about 1920 (NMM 227). This drum is a Utility model, and the model name is stamped on the batter-head rim. The shell is nickel-plated brass and has a center bead. There are six tube lugs with clips that hold the nickel-plated brass rims. It has the patented Utility model strainer, which presumably lends its name to the drum.

Leedy and Ludwig & Ludwig were the two major drum companies during the teens and twenties,³¹ and their business model resembled that of C. G. Conn and other leaders in the music industry. Their products, which were mass-produced for nationwide distribution networks, dominated the percussion industry. Each of them had sales divisions that in the 1920s published magazines advertising their products.³² Perhaps most importantly, both employed engineers who conducted research and experimentation.³³ These elements, possessed by the Leedy and the Ludwig and Ludwig companies, turned the production of drums into a modern American musical instrument industry.

The introduction of throw-off strainers completed the last major step in the transition of the American snare drum. To be sure, there were many innovations and improvements made to the drum during the remainder of the twentieth century.³⁴ However, these improvements and modifications have not been as drastic as the changes that occurred between the Civil War and World War I. The transformation of the snare drum from the hand-made military side drums of the mid-nineteenth-century to the sleek, mass-produced percussion instruments of the 1910s and '20s was quite dramatic. Newer styles of music such as jazz and rock-and-roll have influenced changes in the snare drum's design, but not nearly to the

same degree as the introduction of snare drums to the bands, orchestras, and vaudeville shows of the earlier period.

Notes

1. Pepper began manufacturing drums when it acquired Adolph G. Soistmann's shop in 1890. Lloyd Farrar, "Under the Crown and Eagle," *Newsletter of the American Musical Instrument Society* 16, No. 1 (1987): 3-4.

2. Lyon and Healy began manufacturing drums in 1886. Lyon and Healy, *Illustrated Catalogue of Drums, Fifes, Flutes, Bugles, Etc.* (Chicago: Lyon and Healy, 1886), 1.

3. C. G. Conn, *Catalogue and Price List* (Elkhart, Indiana: C. G. Conn, 1880), 27.

4. Fischer sold Besson drums imported from England and Duplex drums. Carl Fischer, *Carl Fischer: Instruments of Every Description. Wholesale and Retail* (New York: Carl Fischer, 1896), 49.

5. Rob Cook, *The Complete History of the Leedy Drum Company* (Fullerton, California: Centerstream, 1993), 8.

6. Ibid.

7. "Leedy Company Moves to New Plant," *The Music Trades* 26, No. 2, (11 July 1903), 41.

8. Cook, *Leedy*, 16.

9. Ibid., 18.

10. Leedy Manufacturing Company, *Drums Catalog H* (Indianapolis: Leedy Manufacturing Co., 1916), 9.
11. Cook, *Leedy*, 16.
12. Leedy Manufacturing Company, 9-16.
13. About John Philip Sousa, *About the Sousa Homepage*, <http://www.dws.org/sousa/about.htm>, accessed 21 July 2003.
14. Rob Cook, *The Ludwig Book* (Alma, Michigan: Rebeats, 2003), 183.
15. William F. Ludwig, *My Life at the Drums* (Chicago: Ludwig Drum Co., 1962), 10.
16. Cook, *Ludwig*, 183.
17. Cook, *Leedy*, 16.
18. Cook, *Ludwig*, 16.
19. Paolo Sburlati, *Ludwig Yesterday & Today: 1909-1999* (Turin, Italy: Paolo Sburlati, 1999), 10.
20. Ludwig, William F. *Drum and Cymbal Playing Apparatus*, U. S. Patent No. 922,706, 25 May 1909
21. Harry Cangany, *The Great American Drums and the Companies that Made Them: 1920-1969* (Cedar Grove, New Jersey: Modern Drummer, 1996), 32-33
22. There is no “muffler” on this drum like on the Boulanger drum discussed in Chapter 3 (page 60). According to James Blades, *Percussion Instruments and*

their History 1970; reprint, Westport, Connecticut: The Bold Strummer, 1992)

370. Muffled drums were snare drums with snares “loosened.”

23. See NMM 965 p. 172, NMM 5495 p. 170 and NMM 2983 p. 190.

24. Ludwig and Ludwig, *Ludwig & Ludwig: Manufacturers of Drums and Accessories* (1912; reprint, Anaheim Hills, California: Cedar Creek Publishing, no date), 12-13.

25. *Ibid.*, 10.

26. Harry Cangany, 32-33.

27. Cook, *Ludwig*, 17.

28. It is curious to note that even though William F. Ludwig applied for his patent in 1909, the Leedy patent was applied for and granted before the Ludwig patent was issued in 1912.

29. Cangany, 14.

30. Leedy Manufacturing Company, 8-9.

31. Cook, *Ludwig*, 17.

32. Leedy sales manager, George Way, began *Leedy Drum Topics* in 1923 (Cook, *Leedy*, 40). The first known issue of *The Ludwig Drummer* is from 1925. (Cook, *Ludwig*, 68).

33. R. C. Danly of Ludwig and Ludwig and William F. Ludwig were both involved in product development. Leroy Jeffries was a mechanic and designer for Leedy beginning in 1902. Cook, *Leedy*, 21.

34. These developments have been documented in several books by Rob Cook, Harry Cangany, Paul Schmidt and Chet Falzerano that trace the history of American drum companies.

**Catalog of Snare and Side Drums, 1750-1920,
in the Collections of the National Music Museum**

Part 1: European Drums

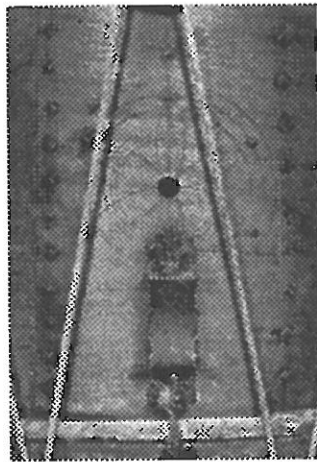
Part 2: American Drums

Part 1: European Drums

Catalog Number:	NMM 7405.
Date:	About 1750.
Maker:	Unknown.
Location:	Switzerland.
Label:	The inside of the shell has a repair label with the following text: <i>Renoviert per / H Rieder Dambour / A[nno] 1804.</i> ¹
Shell Material:	Walnut.
Dimensions:	Due to warping, the shell measures between 335 mm and 347 mm (ca. 14 in.) high by 350 to 360 mm (ca. 14-1/2 in.) in diameter. ²
Tension:	Rope-tension with eight leather tugs.
Rims:	Walnut rims. Each rim has eight drilled holes through which the rope passes.
Strainer:	Brass J-hook snare adjuster, located below the vent hole. The hook is positioned vertically, parallel to the drum shell, in a brass mount. Opposite the strainer is a metal screw over which the snares loop.
Decoration:	The shell has an unusual brass tack and etching design, described by John Koster, NMM Conservator (1991 - present) who initially cataloged the instrument, as "scratched with a compass, consisting of concentric circles with a six-pointed 'star' made of arcs, with iron studs (tacks) at the points of the star." On both sides of the decoration around the vent hole is a vertical line of iron tacks that reinforce the overlapped shell, which is also glued.
Other:	There has been considerable woodworm damage to the shell and rims. There have also been sections of new wood set into the rims; according to Koster, this may have been to repair some woodworm damage. Koster also observed that wood on the bottom hoop had circular-saw marks, therefore the repair had been made after around 1840. Another old repair on the bottom rim is a section of tinned sheet-iron that has been used to reinforce the wood around the hole cut for the snare.
Source:	Purchase, Board of Trustees, 1999.



NMM 7405.



Strainer and tack pattern.



Screw (opposite strainer)
over which snares loop.

Catalog Number: NMM 3596.

Date: About 1825-1850.

Maker: Unknown.

Location: Bern, Switzerland.

Label: Stamped on the brass strainer mount: *ZEUGHAUS / BERN / 94*.³

Shell Material: Brass shell with the seam visible on the exterior of the drum.

Dimensions: 274 mm (10-3/4 inches) high by 370 mm (14-1/2 inches) in diameter.

Tension: Rope-tension with ten leather tugs.

Rims: Walnut, decorated with painted red and black diagonal stripes on the exterior and solid red paint on the interior. There are ten drilled holes in each rim through which the rope passes.

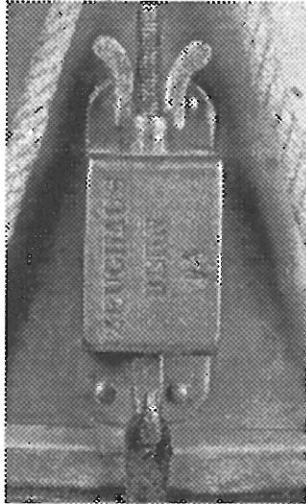
Strainer: The snare strainer is an iron, J-hook snare adjuster, which is positioned vertically, parallel to the drum shell, in a brass mount. There is a brass hook on the opposite side of the drum over which the snares loop.

Other: Gary Stewart, NMM Conservator (1976 - 1990), replaced one of the missing tugs.

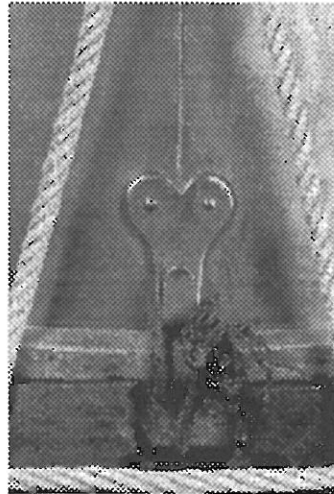
Source: Purchase, Board of Trustees, 1985.



NMM 3596.



Strainer.



Hook over which snares loop.

Catalog Number: NMM 3595.
Date: Around 1850.
Maker: Kaltenecker & Son.

Location: Munich.

Maker Information: According to Josef Focht, a researcher of Munich instrument makers, the Kalteneckers were probably sieve makers who made drums for the Bavarian Army. He is aware of an exhibition catalog from Munich in 1836 in which Kaltenecker appears,⁴ and J. Kaltenecker had instruments in the 1851 Crystal Palace Exhibition in London.⁵

Label: Stamped in a circle on the outside of the rim: KALTEN[E]CKER / & SOHN / MUNCHEN.

Shell Material: Brass shell. As is typical, the top and bottom edges have been curved over towards the inside of the drum to make a smooth surface against the heads. There is a vertical seam visible on the interior of the shell.

Dimensions: 285 mm (11-1/4 in.) high by 367 mm (14-1/2 in.).

Tension: Rope-tension with ten leather tugs.

Rims: Ash, decorated with painted blue and white diagonal stripes on the exterior and solid white paint on the interior. There are ten holes drilled in each rim through which the rope passes.

Strainer: Brass J-hook snare adjuster, positioned vertically, parallel to the shell, in a brass mount. Opposite the strainer is a hook over which the snares loop.

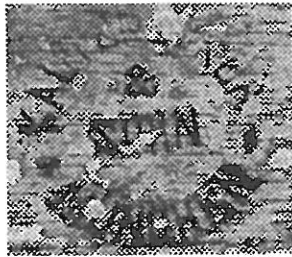
Other: Inside the shell, there are two patches of silver-colored metal that have been soldered on, to reinforce the shell, one where the strainer is located and the other where there is a metal hook over which the snares loop. Gary Stewart, Conservator, replaced one leather tug.

Inscription: Inside the drum is an inscription in German: *V [?] ae [?] bo ude [?]th Closter / Gottfried [?] Plöss [?] / geboren am 4 [Sept] emb[er] / 1849 / zu / Hilpolstein / [?] ankt / [?] ter / [?] z / 1863.* According to Sabine Klaus, NMM Curator (1999 - present), the translation is: [?] monastery / Gottfried Plöss / born on September 4 / 1849 / in Hilpolstein / [?] / [?] / [?] / 1863.

Source: Purchase, Board of Trustees, 1985.



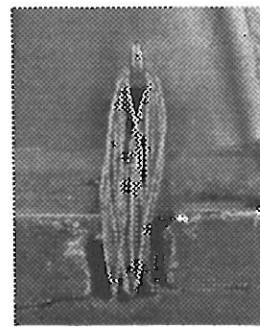
NMM 3595.



Signature.



Strainer.



Hook over which snares loop.

Catalog Number: NMM 3597.

Date: 1850.

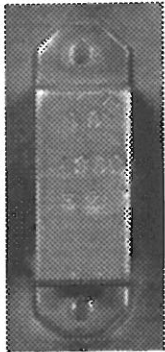
Maker: Colas.

Location: Paris.

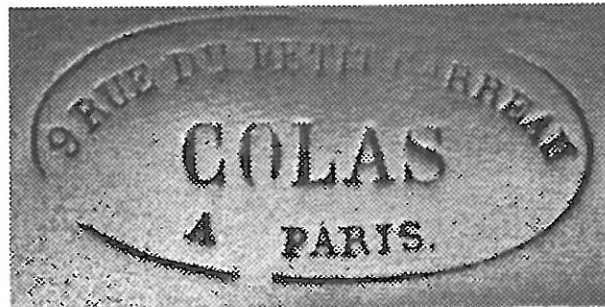
- Maker Information:** The only known musical instrument maker in Paris with the name of Colas was Prosper Colas, who was known for making fine bows. He was born in 1842, and so even in the unlikely event that he might have made or sold percussion instruments, he was too young to be associated with this drum. However, the address for his business was *Rue du Petit Carreau 7*, next door to the address stamped on this drum. Perhaps a relative of Prosper Colas was the maker or distributor of this drum.
- Label:** Stamped in an oval on the drum shell is the following inscription:
9 RUE DU PETIT CARREAU / COLAS / A PARIS.
- Additional Markings:** Stamped on the strainer mount is the following: *99 / 1850 / 32.*
- Shell Material:** Brass, with a seam barely visible on the exterior of the drum.
- Dimensions:** 358 mm (14-1/8 inches) high by 380 mm (15 inches) in diameter.
- Tension:** Rope-tension with ten leather tugs.
- Rims:** Ash, painted brown, each with ten drilled holes through which the rope passes. Stamped on the inside of the snare rim is the number 12. There are also two crudely cut holes in the snare rim through which the snares would have passed.
- Strainer:** The strainer is missing, but the brass mount remains.
- Source:** Purchase, Board of Trustees, 1985.



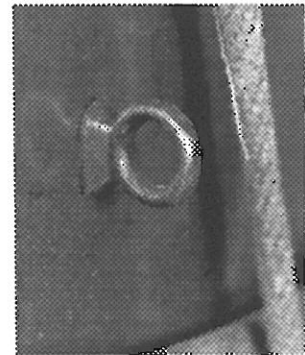
NMM 3597.



Strainer mount.



Signature.



Hook through which
snares loop.

Catalog Number: NMM 10,293.

Date: 1858.

Maker: Henry Potter.

Location: London.

Label: Stamped on the drum shell, but barely visible due to corrosion:
[W?] D / HENRY D POTT [ER] / [1858?] / [?] NEW [?] / LONDON.

Maker Information: Henry Potter's father, Samuel, began making and selling musical instruments in London after retiring from the army in 1817. Henry was active in the business and continued it after Samuel's death in 1838. Henry's son, George, relocated to Aldershot in 1859 and established his own business there. George's son, George Jr., bought the London firm in 1918 and combined the two businesses.⁶

Shell Material: Brass shell with seam visible in the interior of the drum.

Dimensions: 88 mm (7-1/2 inches) in height by 394 mm (15-1/2 inches) in diameter.

Other: Two metal strips reinforce the inside of the shell at the points where the strainer mount is located and opposite, where there is a knob over which the snares loop.

Tension: This instrument utilizes a unique design that combines elements of rope and rod-tension systems. The drum has a rope cord which loops between the batter and snare heads. On the batter head rim are five thumb-rod screws; each thumb-screw has a roller-hook over which the rope passes; and, when the player tightens or loosens the thumb-screws, the hooks adjust the tension on the rope. Between each of the thumb-screws, and attached to the rim, are five roller-hooks over which the rope passes. The snare-head rim has ten roller-hooks mounted directly to the rim (see Chapter Two).

Rims: Ash.

Strainer: There is no strainer on the instrument, but there is a mount nailed to the shell. Opposite the strainer is a brass knob over which the snares would have been looped.

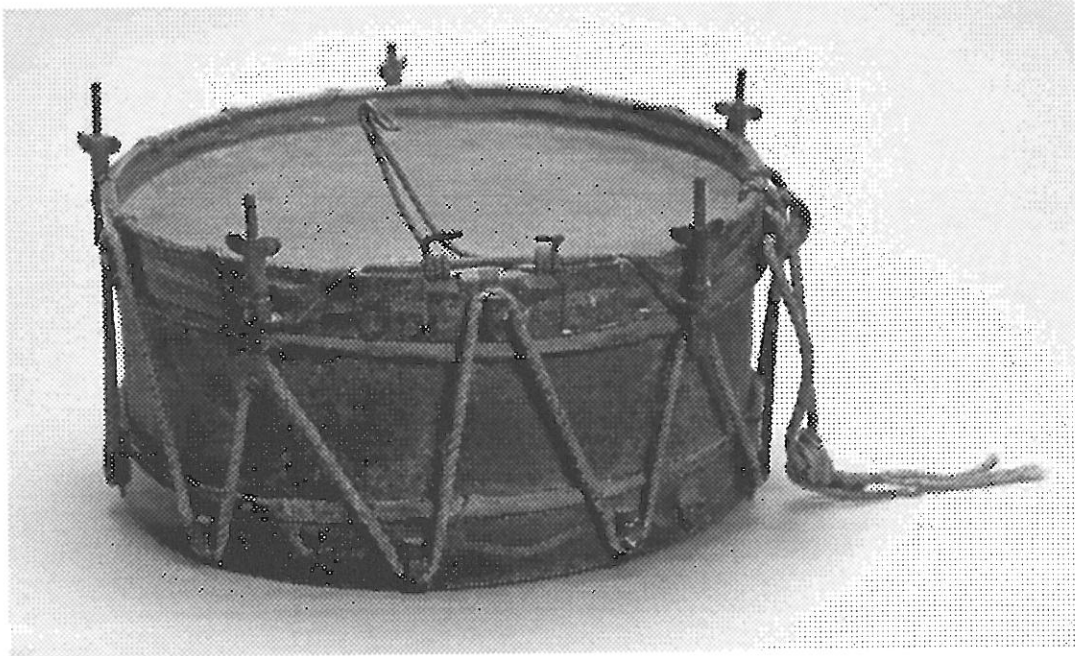
Decoration: The rims are painted with blue paint, with red paint forming a line along the top and bottom edges. A wavy yellow line runs around the center of the rims. This decoration is remarkably similar to that on NMM 10,046, made by the Potter company about 1952.

Other:

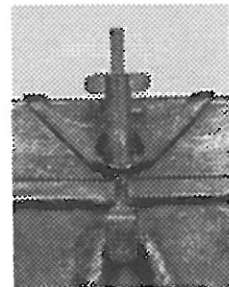
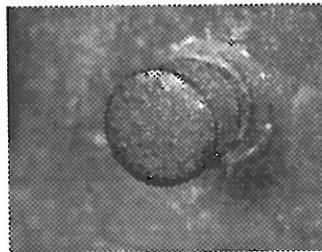
The instrument has a badly corroded brass shell. The shell height is extremely shallow for instruments of the time. There is also a large metal hook that is mounted to the batter head rim that was used to attach the drum to the player's belt.

Source:

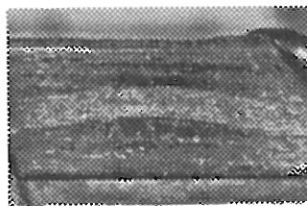
Purchase, Board of Trustees, 2003.



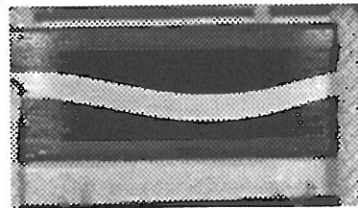
NMM 10,293.



Strainer mount. Knob over which snares originally looped. Tuning mechanism.



Rim decoration.



NMM 10,046. Rim decoration.

Catalog Number: NMM 10,042.

Date: About 1875.

Maker: Unknown.

Location: Belgium or France.

Label: Stamped on the strainer: *H / 290*.

Shell Material: Brass shell, seam visible on the interior of the drum.

Dimensions: 283 mm (11-1/8 inches) high by 404 mm (15-7/8 inches) in diameter.

Tension: Rope-tension with nine leather tugs.

Rims: Maple. Located above the strainer there is one metal hook screwed into the batter head rim over which the rope loops. Otherwise, the rope passes through holes drilled in the rims.

Strainer: Large brass strainer consisting of a large thumb-screw, with a J-hook on the bottom where the snares attach. The hook is secured vertically, parallel to the shell, in a large brass mount. Opposite the strainer is a large brass hook over which the snares loop.

Decoration: Rims painted with alternating yellow, orange, and black triangles.

Other: According to a label that was applied to the snare rim by William F. Ludwig Sr., this drum was used by the Belgian army in World War I. Some remnants of the label remain on the drum, while the rest of it is preserved in the Museum's file for the drum.

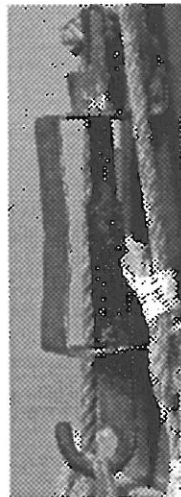
Source: William F. Ludwig Collection, 2001.



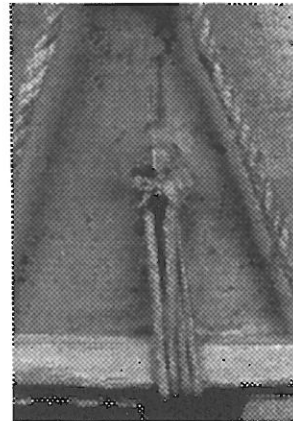
NMM 10,042.



Tug.



Strainer – side view.



Hook over which
snares loop.

Catalog Number: NMM 4131.

Date: About 1875.

Maker: Unknown.

Location: Europe.

Label: None.

Shell Material: Brass shell with a seam visible on the exterior of the drum.

Dimensions: 273 mm (10-3/4 inches) high by 394 mm (15-1/2 inches) in diameter.

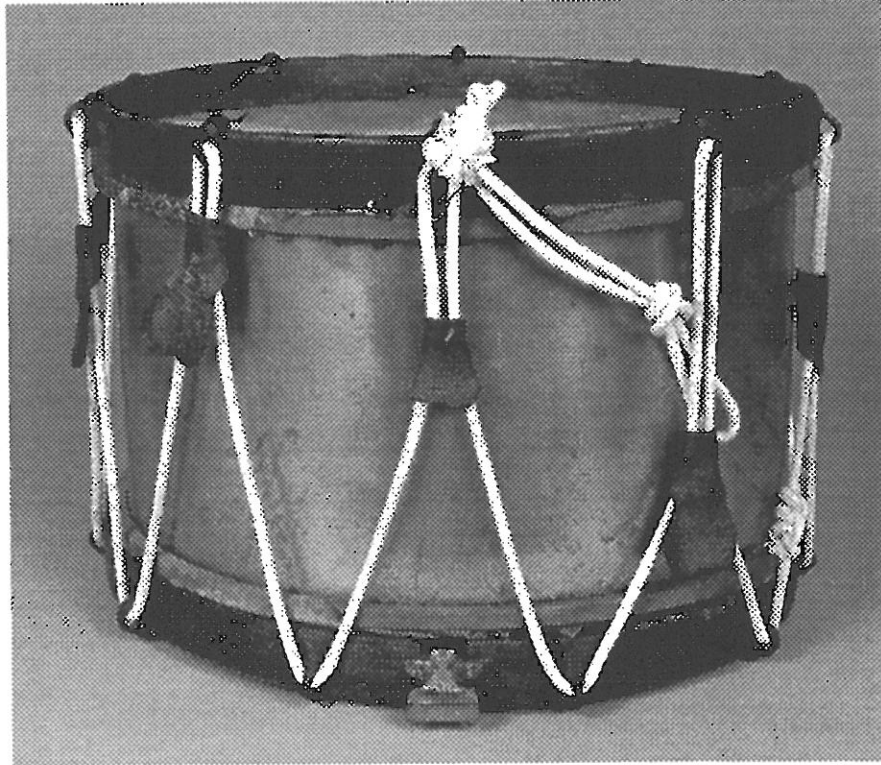
Tension: Rope-tension with ten leather tugs. Only four of the tugs are original to the instrument, and the rope is not contemporary with the drum.

Rims: Ash rims painted black. Each rim has ten iron S-hooks, held in place by the rope that passes over them.

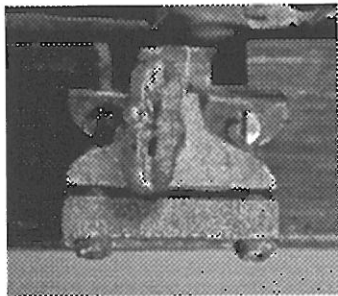
Strainer: Mounted to the snare rim is an iron snare adjuster, consisting of a large metal screw that fits into a metal mount. The screw is mounted horizontally, perpendicular to the rim, and pushes against the rim when tightened, pulling on the snares. This mechanism is discussed in Chapter 1.

Other: The most unusual aspect of this drum is that the calfskin batter head has been crudely sewed or lashed to the counter hoop. This may have been done either to reinforce or to repair the head.

Source: Gift of Mack Bettis, Tulsa, Oklahoma, 1987.



NMM 4131.



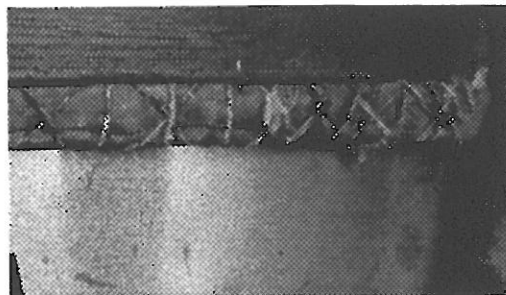
Strainer.



Strainer – side view.



Rope hook.



Batter head flesh-hoop stitching.

Catalog Number: NMM 10,043.

Date: About 1875.

Maker: Unknown.

Location: France.

Label: None.

Shell Material: Brass shell with the seam barely visible on exterior of the drum.

Dimensions: 274 mm (10-3/4 inches) high by 398 mm (15-11/16 inches) in diameter.

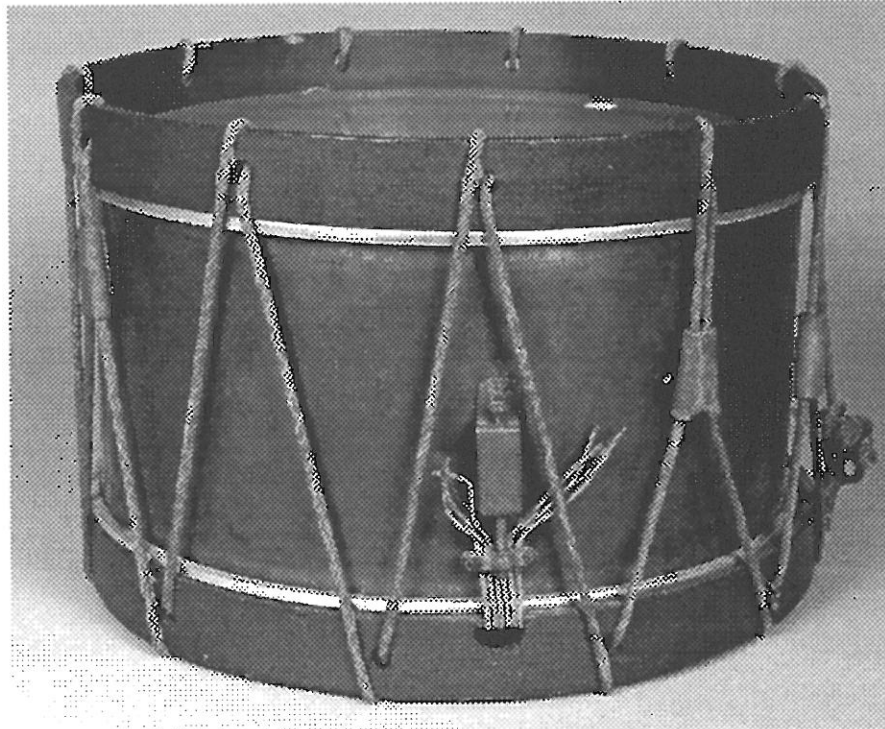
Tension: Rope-tension with eleven leather tugs.

Rims: Ash painted navy blue. Located opposite the strainer on the snare rim is one metal hook over which the rope loops. Otherwise, the rope passes through drilled holes in the rims.

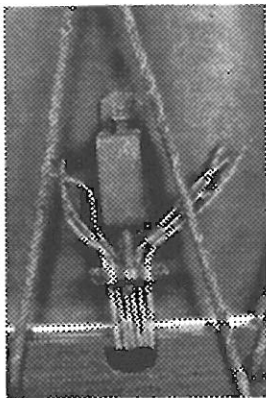
Strainer: Iron snare adjuster positioned directly in front of the vent hole, consisting of a long metal screw which is held in place vertically, parallel to the drum shell, in a brass mount. The screw fastens onto two metal pieces that clamp onto the snares (see chapter 1). Opposite the strainer is a metal knob, over which the snares would have originally been looped. Currently, the snares are not fastened to the strainer, but are held in place by the rims.

Other: A second, almost identical drum remains in the private collection of William F. Ludwig II, Oakbrook, Illinois.

Source: William F. Ludwig II Collection, 2001.



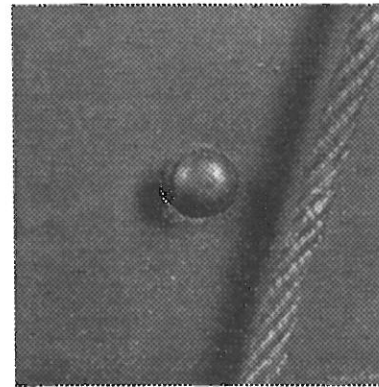
NMM 10,043.



Strainer.



Leather strap and
single rope hook.



Knob over which snares
originally looped.

Catalog Number: NMM 10,091.

Date: About 1900.

Maker: Attributed to Trommel-Fabrik Weissenfels.

Location: Weissenfels an der Saale, Germany.

Maker Information: Johannes Link founded the Trommel-Fabrik Weissenfels in 1875. The company name was changed to Sonor in 1907.⁷

Label: None.

Shell Material: Brass.

Dimensions: 165 mm (6-1/2 inches) high by 330 mm (13 inches) in diameter.

Tension: Separate-tension; each head has eight, two-post lugs, with rods that attach to studs welded on each rim and to the shell near the rim.

Rims: Brass rims; both the top and bottom edges of the rims have been folded over, towards the outside of the drum, to make rounded edges.

Strainer: The instrument has a J-hook strainer in the manner of most European drums of the time. Opposite the strainer is a small metal knob welded to the shell, over which the snares loop.

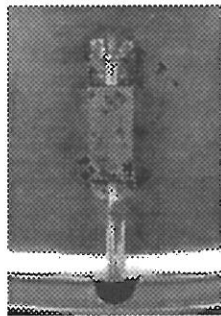
Other: Small metal plates on the inside of the shell are used to reinforce the external posts.

Provenance: The history of this drum is well documented. It was first owned by the drummer, Thomas Mills, who bought it while on tour with the Sousa band in Germany in 1902. William F. Ludwig purchased it from Mills (see chapter 4). Ludwig and Ludwig started manufacturing snare drums, using this drum as a model, about 1910. The drum remained in the Ludwig family until sold by William F. Ludwig II to Harry Cangany, Indianapolis, Indiana, in 1989.

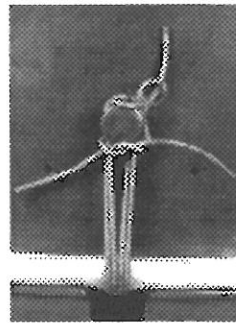
Source: Gift of Harry Cangany, Indianapolis, Indiana 2001.



NMM 10,091.



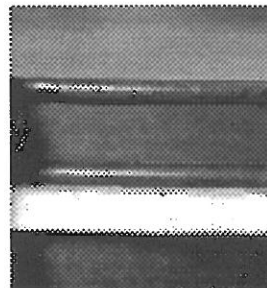
Strainer.



Knob over which snares loop.



Lug.



Rim.

Catalog Number: NMM 407.

Date: 1942.⁸

Maker: Sonor Drum Company.

Location: Weissenfels an der Saale, Germany.

Label: Stamped below the vent hole: *Johs. Link / Weissenfels / 1942 / 88.*

Maker Information: Johannes Link founded the Trommel-Fabrik Weissenfels in 1875. The company name was changed to Sonor in 1907. The drums were still signed with Link's name and not Sonor at least through the companies move to West Germany after World War II.

Shell Material: Aluminum with a vertical seam visible from the exterior of the drum.

Dimensions: 167 mm (6-1/2 inches) by 369 mm (14-1/2 inches) in diameter.

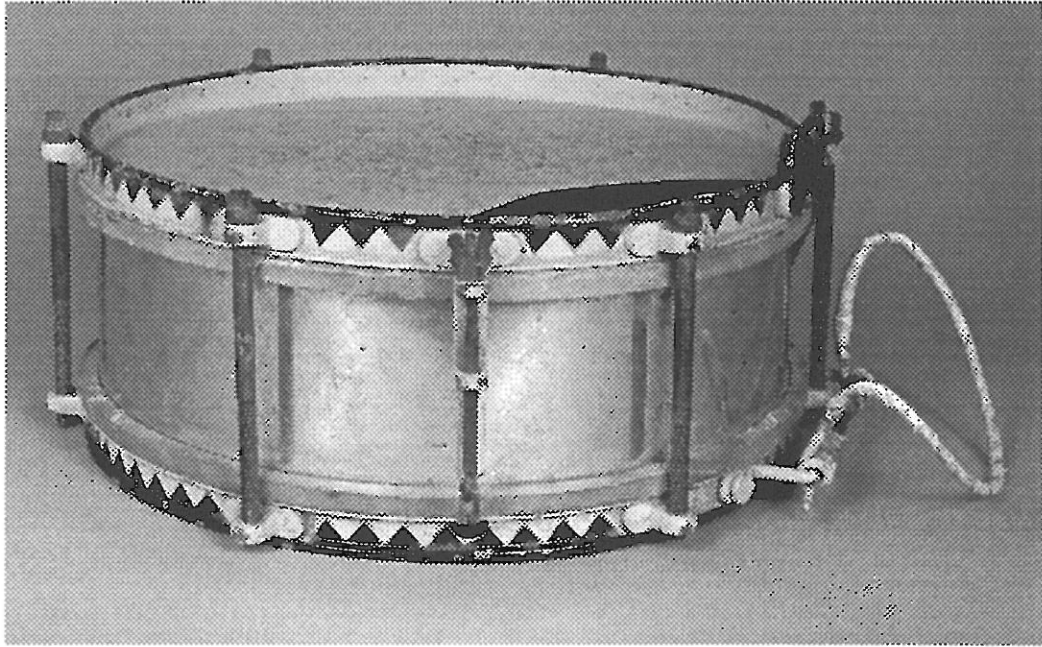
Tension: Single-tension with six, sturdy metal rod screws. Each screw is set into two eyelets that are mounted, one each, on the top and bottom rims. The rods have a triangle-shaped top and are adjusted on the batter side of the drum.

Rims: Iron rims, curved towards the exterior of the drum (single-flanged), produce a rounded edge that is less damaging to a stick.

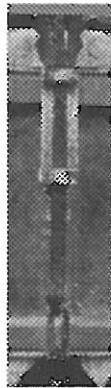
Strainer: The snare strainer is a simple J-hook strainer, mounted vertically, parallel to the shell, in an iron mount attached to the batter rim. Across from the strainer there is a metal knob over which the snares loop.

Other: The rims, eyelets for metal rods, and snare strainer are painted with triangles of off-white and black. The rim decoration was applied with spray-paint. The drum also features a metal leg rest, which would sit against a players' upper thigh. In place of the more usual single hoop to which to attach a sling, constructed of metal and mounted to the batter head rim, this drum has an unusual, three-hole version that is soldered to the rim. This provides the player with choices of where to attach the sling. See Chapter Two, for more information about Prussian drums.

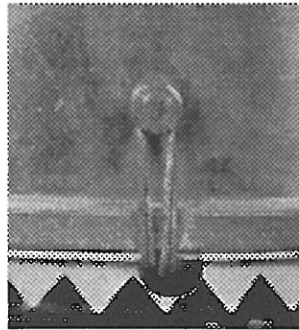
Source: Arne B. Larson Collection, 1979.



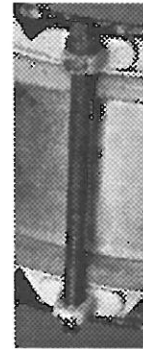
NMM 407.



Strainer.



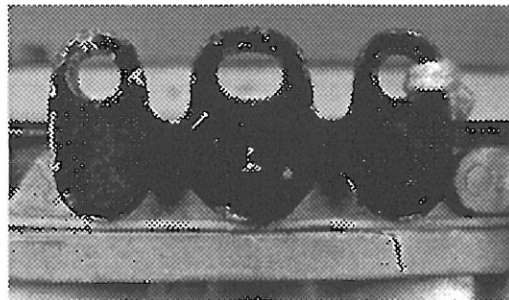
Knob over which snares loop.



Tension rod.



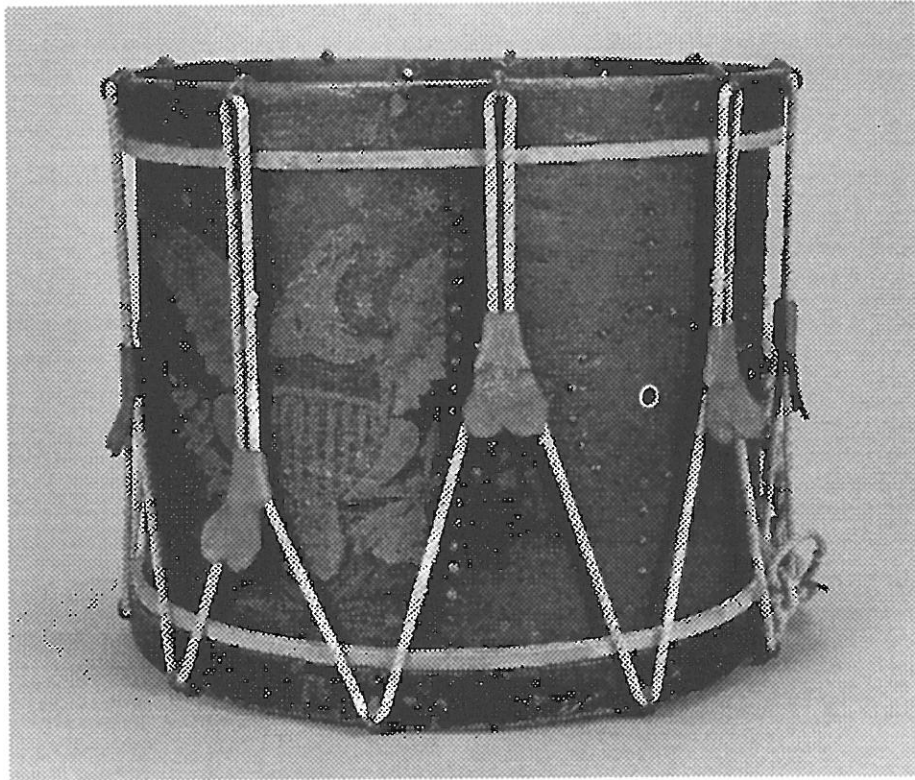
Signature.



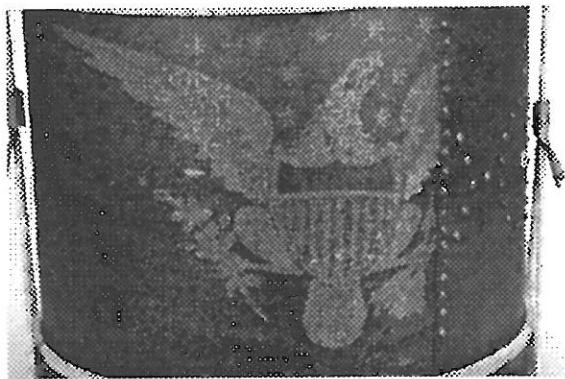
Hooks for sling.

Part 2: American Drums

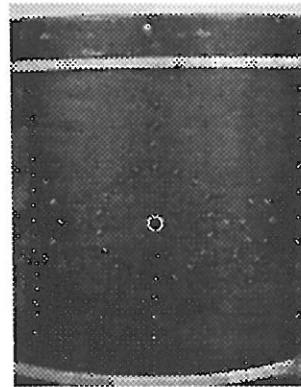
Catalog Number:	NMM 2866.
Date:	About 1835.
Maker:	Eli Brown.
Location:	Windsor or Bloomfield, Connecticut.
Label:	Paper label (mostly deteriorated) inside shell: <i>EL[I] BROWN</i> .
Shell Material:	Maple.
Dimensions:	385 mm (15-1/4 inches) high by 420 mm (16-1/2 inches) in diameter.
Decoration:	The maple shell has a dark brown varnish that was applied at a later date. A large gold eagle is painted on the shell, but 2/3 of its left wing was cut off when the drum was cut down for use by a military drummer (see Chapter 1). The large eagle is painted on a red background (which has blackened). The eagle has a red and blue shield. The eagle's head is facing to the right and is surrounded by eight stars. In its left talons are an olive branch, and in the right, arrows. Below the eagle is a quiver with more arrows. A brass tack pattern reinforces the shell.
Tension:	Rope-tension drum with nine leather tugs.
Rims:	Maple, originally painted red, but appears to have been painted over with a black lacquer, which is now badly scratched, showing the original red beneath. Each rim has nine drilled holes through which the rope originally passed. Nine metal hooks on each rim now receive the rope.
Strainer:	There is no strainer. The snares are held in place by the tension on the rim.
Other:	Five of the tugs were replaced by the Museum conservator, Gary Stewart, in 1981. The snare-head rim has been rotated so that the original hole cut for the snare bed is almost perpendicular to the current position of the snares.
Source:	Arne B. Larson Collection, 1979.



NMM 2866.



Eagle painting.



Tack pattern.

Catalog Number: NMM 10,039.
Date: 1841.
Maker: Eli Brown & Son.
Location: Bloomfield, Connecticut.

Label: Printed on paper label inside drum shell, visible through vent hole:
*ELI BROWN & SON. / DRUM MANUFACTURERS, / HAVE
CONSTANTLY FOR SALE / BASS AND SNARE DRUMS / MADE
IN THE NEATEST AND BEST MANNER / Bloomfield, Conn.
1841. No. 2152.*

Shell Material: Maple.

Dimensions: 495 mm (19-1/2 inches) high by 471 mm (18-1/2 inches) in diameter.

Decoration: The drum is decorated with a dark reddish-brown varnish. The brass tack design is one of Brown's standards, featuring eight diamonds and two circles around the vent hole.

Tension: Rope-tension with ten leather tugs.

Rims: The wood rims are painted red, and each has ten drilled holes through which the rope passes.

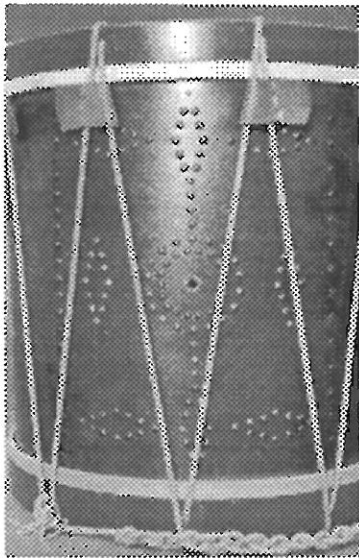
Strainer: Brass snare adjuster with a thumb-screw top, positioned vertically, parallel to the shell, and in a brass mount on the snare rim.

Other: Handwritten inside the shell are two notations about repairs to the drum. The oldest is by J. H. Morrow of Waterbury, Connecticut and dated 1920. The second lists the replacement of the rope and ears by William F. Ludwig of Chicago in 1964. Five of the tugs were replaced as part of the 1964 restoration.

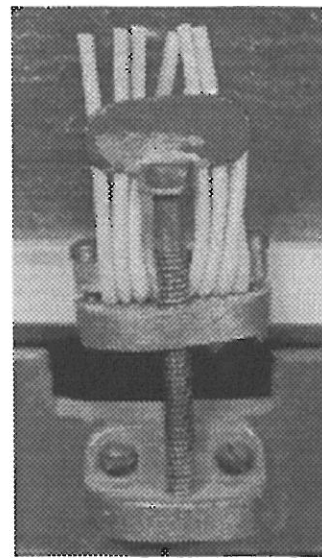
Source: William F. Ludwig II Collection, 2001.



NMM 10,039.



Tack pattern.



Strainer.

Catalog Number: NMM 10,040.

Date: About 1850.

Maker: William Ent.

Location: Germantown, Pennsylvania.

Label: Printed on paper label inside drum shell: *Drums, Fifes, / REGIMENTAL COLOURS, / TAMBORINES, & C. / MADE AND REPAIRED BY / WILLIAM ENT, / GERMANTOWN, / Philadelphia County, Pa.*

Shell Material: Ash.

Dimensions: 422 mm (16-1/2 inches) high by 414 mm (16-5/16 inches) in diameter.

Decoration: This instrument does not have the usual William Ent tack pattern consisting of three diamonds. Instead, this drum has a circle, double-circle, circle design.⁹

Tension: Rope tension with nine leather tugs (one missing).

Rims: Wood rims painted red. Each has ten drilled holes through which the rope passes.

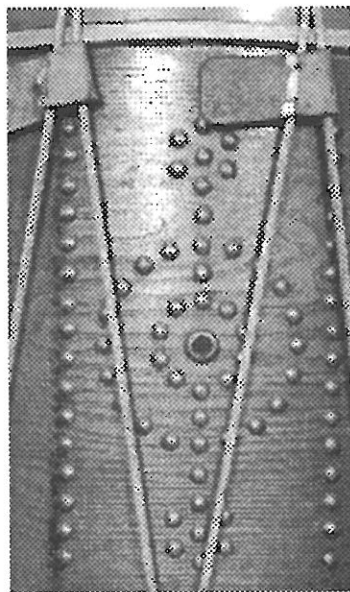
Strainer: The snare adjuster has been replaced with a shell-shaped brass screw of the type often used on J. W. Pepper and Lyon and Healy drums about 1900.

Other: The washer behind the strainer has stamped on it: *LUDWIG & LUDWIG CHICAGO, ILL.*

Source: William F. Ludwig II Collection, 2001.



NMM 10,040.



Tack pattern.

Catalog Number: NMM 10,041.

Date: About 1856-1865.¹⁰

Maker: White Brothers.

Location: Boston.

Label: Printed on paper label inside drum: *MADE BY / White Brothers, / 86 TREMONT STREET, BOSTON.*

Shell Material: Brass.

Dimensions: 356 mm (14 inches) high by 414 mm (16-1/4 inches) in diameter.

Tension: Rope tension with eight leather tugs.

Rims: Wood rims painted dark brown, each with eight drilled holes through which the rope passes.

Strainer: The brass snare adjuster is attached to the snare rim. It consists of a metal screw, mounted horizontally, perpendicular to the rim, which, when tightened, screws into the rim, pulling the snares tighter. The strainer has a nickel-plated replacement knob from sometime in the twentieth century.

Other: Very few mid-nineteenth century American drums had brass shells, which were more commonly used on European drums. Assuming that the label is correct, and this is not an imported instrument sold by the White brothers, this drum is rather unusual.

This instrument, part of the William F. Ludwig II Collection, was purportedly used by a Confederate drummer. Many Northern-built drums were used in the South during the War (see Chapter One).¹¹

Source: William F. Ludwig II Collection, 2001.



NMM 10,041.



Back.

Catalog Number: NMM 906.

Date: 1858.

Maker: James Sturdevant.¹²

Location: Waverly, Iowa.

Label: None.

Shell Material: Oak.

Dimensions: 310 mm (12-1/4 inches) high by 380 mm (15 inches) in diameter.

Decoration: Shell painted dark blue or black.

Other: The seam protrudes from the shell and is quite crude. Brass tacks form two parallel, vertical lines, and help reinforce the shell. Four other tacks around the vent hole are entirely decorative. The tacks have been painted the same dark color as the shell.

Tension: Rope tension with eight leather tugs.

Rims: Ash or oak painted gray. Each has eight drilled holes through which the rope passes.

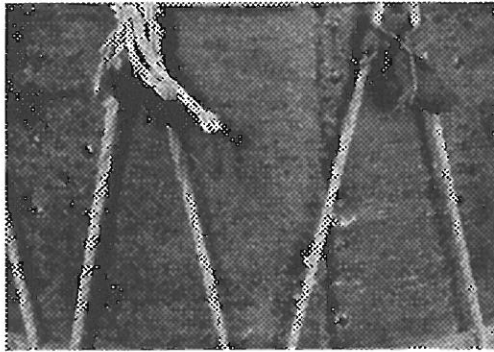
Strainer: There is no strainer. The three gut snares are held in place by the tension on the rims.

Other: A note taken by Arne B. Larson in 1972 states that the donor, Mrs. Daisy Logeman of Sioux Falls, received the drum in 1946 from her cousin, William Weber (whose name appears both inside the drum shell and on the drum head), who was the grandson of the maker. Sturdevant used this instrument in the Home Guard Drum & Bugle Corps at Waverly, Iowa, during the Civil War and political campaigns that followed. The instrument is an example of drums built by amateur makers who possessed the carpentry skills to produce a wood drum.

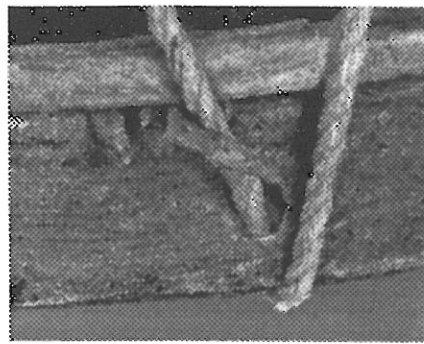
Source: Arne B. Larson Collection, 1979.



NMM 906.



Tack Pattern.



Snares held in place by rims.



Name on batter head.

Catalog Number: NMM. 2814.

Date: About 1860.

Maker: Possibly C. and F. Soistmann or William Boucher, Jr.

Location: Philadelphia or Baltimore.

Maker Information: Henry William Raphael Eisenbrandt was the son of Heinrich Christian Eisenbrandt, who founded a musical instrument store and built instruments in Baltimore, beginning in 1811. While there are many surviving instruments by Heinrich, Henry Raphael was only known as a musical instrument dealer.¹³ Caba states that the Soistmanns of Philadelphia made the drums that Eisenbrandt sold.¹⁴

There is a second possibility. Eisenbrandt's drums may have been built by William Boucher, a banjo and drum maker in Baltimore. Boucher, an immigrant from Europe, who may actually have been encouraged by C. H. Eisenbrandt to locate in Baltimore. Boucher's first store was in a building formerly used by Eisenbrandt, and his shop was eventually at 84-1/2 Baltimore Street, only a few doors from the Eisenbrandt shop.¹⁵ Boucher sold wind instruments imported by Eisenbrandt,¹⁶ and it is likely that Eisenbrandt would have sold some of the instruments produced by Boucher (see Chapter Two).

Label: Paper label inside shell: *Established 1811 / H. R. EISENBRANDT, / No. 78 West Baltimore St. / BALTIMORE, MD / MUSICAL / INSTRUMENTS, DRUMS, STRINGS / & c., & c., & c.*

Shell Material: Maple.

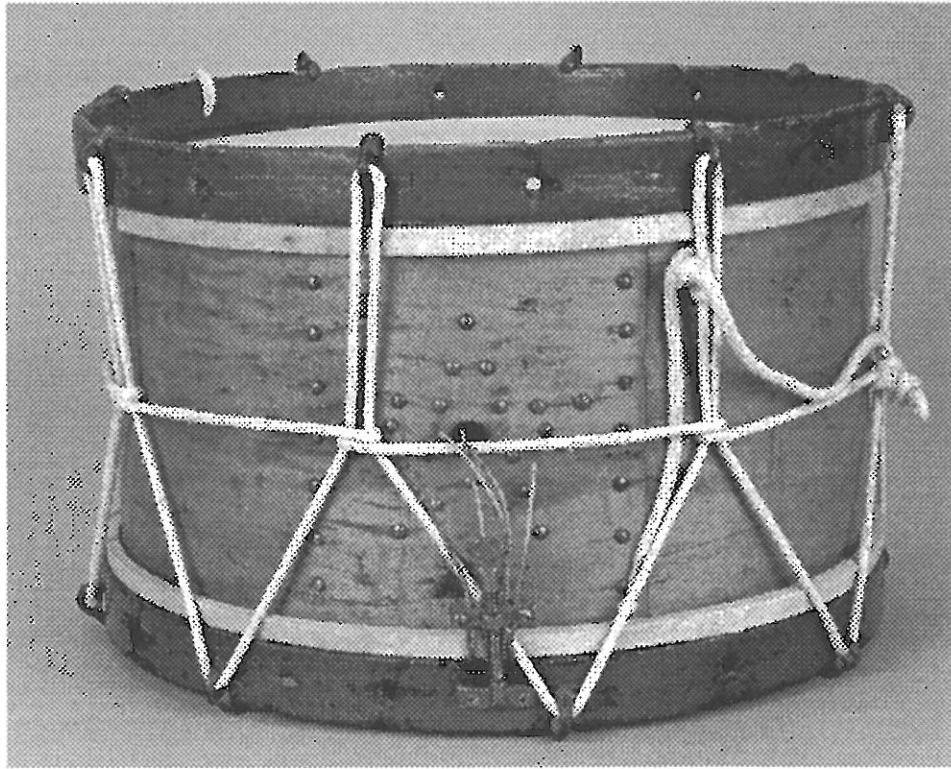
Dimensions: 279 mm (11 inches) high by 419 mm (16-1/2 inches) in diameter.

Tension: Rope tension, rope has been replaced, and the leather tugs are missing.

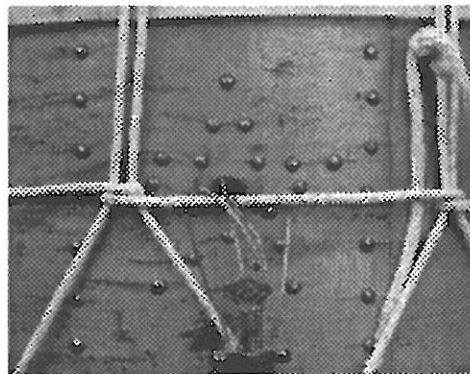
Rims: Maple, painted red, each with eight drilled holes through which the rope originally passed. Eight metal hooks on each rim currently receive the rope.

Strainer: The brass snare adjuster is not original.

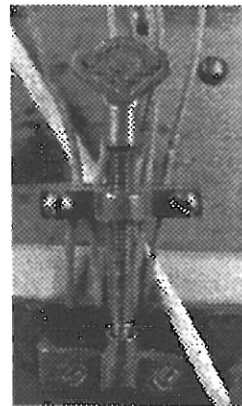
Source: Purchase, Board of Trustees, 1981.



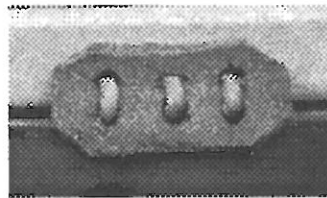
NMM 2814.



Tack pattern.



Strainer.



Leather strap securing snares.

Catalog Number: NMM. 2865.

Date: About 1860.

Maker: A. E.

Location: New England (possibly Massachusetts).

Label: Etched crudely inside the drum shell: *A E / Maff App 1772*.

Shell Material: Maple.

Dimensions: 376 mm (14-3/4 inches) high by 387 mm (15-1/4 inches) in diameter.

Tension: Rope tension with ten leather tugs.

Rims: Maple painted red. Each have ten drilled holes through which the rope passes.

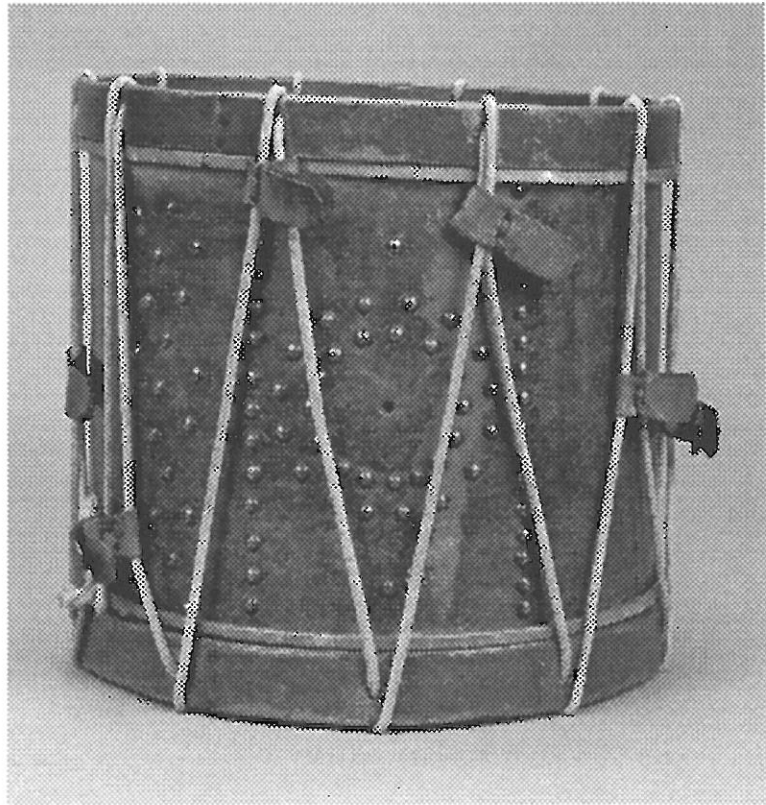
Strainer: None. The one gut snare that exists (on the batter head flesh hoop, which at one point must have been on the snare head, as there are grooves from a snare bed that had six snares) is held in place by the tension on the snare rim.

Decoration: There is a tack design consisting of two concentric circles framed by parallel lines. To the left of this design are three six-pointed stars, which are purely decorative, as the shell does not overlap at this point.

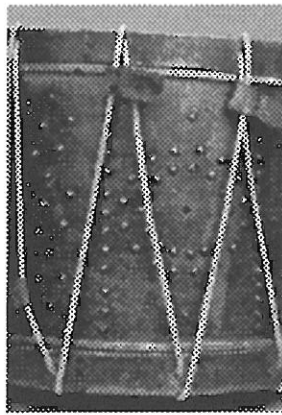
Other: Gary Stewart, Conservator, made a drawing of the crudely scratched words on the interior of the drum shell, when he had the drum shell apart in 1981. Originally, the number 1772 was thought to be a year, but this number must have some other meaning. Perhaps it is a production number of some sort.

The seam is very crude, with the overlapping edge sticking out from the shell. This could indicate an amateur maker, or an earlier manufacturing date.¹⁷ A row of nails is used to reinforce the seams of the shell and rims.

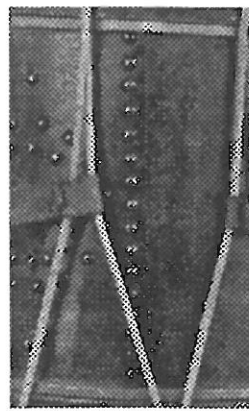
Source: Arne B. Larson Collection, 1979.



NMM 2865.



Tack pattern.



Seam of shell.

Catalog Number: NMM 3030.

Date: About 1860.

Maker: Unknown.

Location: U. S. A.

Label: Partial label inside shell: *Now [?] / J. & [?] / No. 8 [?] / Have just [?] / direct from the [?] / a complete as [?] / every descrip[tion] [?] / Retail, as che [?] States.*

Shell Material: Maple.

Dimensions: 152 mm (6 inches) high by 411 mm (16-1/8 inches) in diameter.

Tension: Rope tension (rope missing). Nine leather tugs remain (one missing).

Rims: Ash with a heavy varnish and thick craquelure. Each rim has ten holes drilled through which the rope passes.

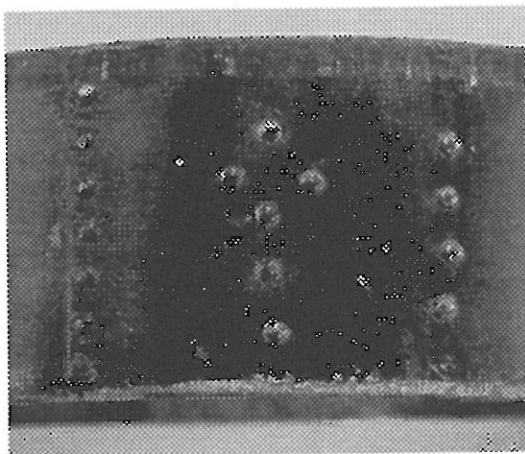
Strainer: There is a small brass mount with a receiver for a screw located on the snare rim below the snare bed. Not enough of the mechanism is present to determine the original strainer.

Other: The drum shell has a brass tack design featuring two parallel lines with a third line in between. The middle line has a circle or diamond on the top. The vent hole is in a strange place - next to the bottom tack in the diamond. The drum was cut down. There are three tack holes along the bottom edge of the shell, and the label has been cut down. Unfortunately the original size of the drum height cannot be determined from the available clues.

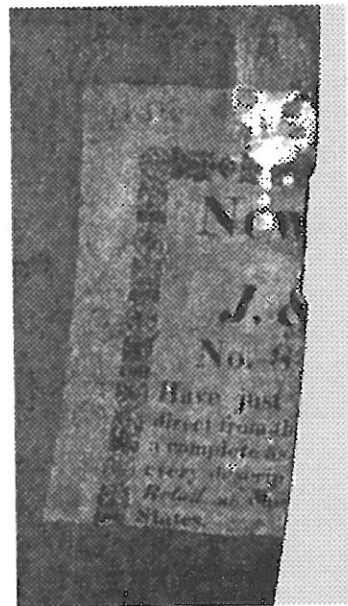
Source: Arne B. Larson Collection, 1979.



NMM 3030.



Tack design.



Label.

Catalog Number: NMM 10,141.

Date: 1860.

Maker: W. S. Tompkins.

Location: Yonkers, New York.

Label: Handwritten inside the shell twice, once opposite the vent hole and again directly below the batter head: *Wm S. Tompkins / Maker / Yonkers NY / July 31 1860 / No 2190*. Also written opposite the vent hole: *Drums of All Sizes / Made to Order*.

Other markings: Engraved on a silver-plated shield on the outside of the shell: *Presented to / Tm. J. Hellrigle / by S. C[r]eighead D. Iddings / And others of the City of / Dayton Ohio / August 20. 1860*.

Shell Material: Mahogany.

Dimensions: 400 mm (15-3/4 inches) high by 430 mm (17 inches) in diameter.

Decoration: Ornatly inlaid with wood pieces from a variety of species. Some have been dyed orange, red, green, or black. They form a field of stars in concentric circles around a large central sun. In addition, stars circle the drum in five rows.

Tension: The instrument is a rope-tension drum with ten leather tugs. The tugs are cut in the shape of shields, each with the initials T. J. H. engraved on a small silver-plated shield. Three tugs are missing and the shield is missing from a fourth.

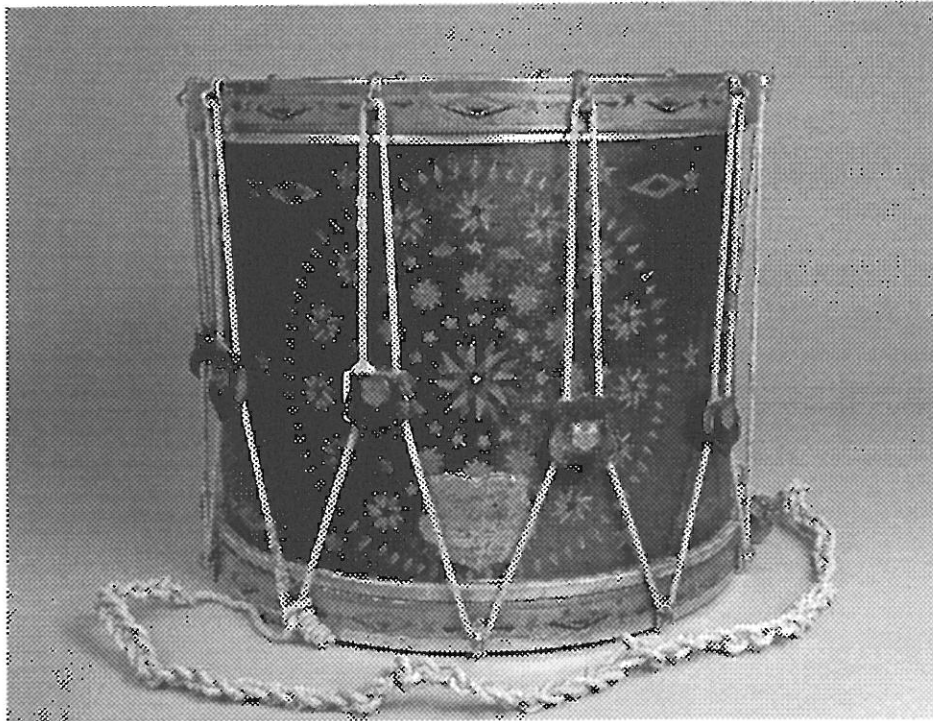
Rims: The rims are maple, with wood pieces from a variety of species that form designs of stars and diamonds around the rim. Metal bands protect the top edge of each rim. There are ten metal S-hooks, attached to each rim, through which the rope passes.

Strainer: Brass snare adjuster, consisting of a screw positioned horizontally, perpendicular to the shell, mounted to the snare head rim. When the screw is tightened, it pushes against the rim, pulling the snares outward.

Other: The shell is unique for the period because it does not have brass tacks. Attached to the inside of the shell is a newspaper clipping that details the presentation of this instrument and describes the decoration.

The original owner of the drum, Thomas J. Hellrigle, was 39 when he enlisted at Hamilton, Ohio, on September 5, 1861. He was the principal musician (or bandleader) for the 35th Ohio Volunteer Infantry Regimental Band. He was mustered out of service on the 19th of September in 1862 in Nashville, Tennessee, probably as a result of government general order No. 90 of July 1862 which eliminated all Union Army Regimental Volunteer Bands.¹⁸

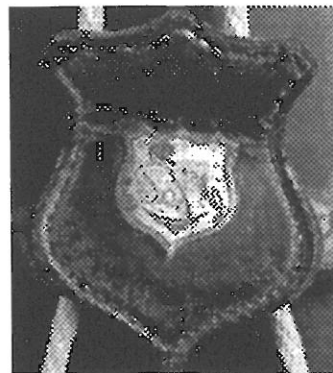
Source: William F. Ludwig II Collection, 2002.



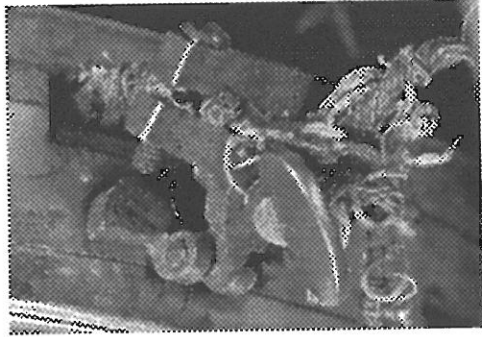
NMM 10,141.



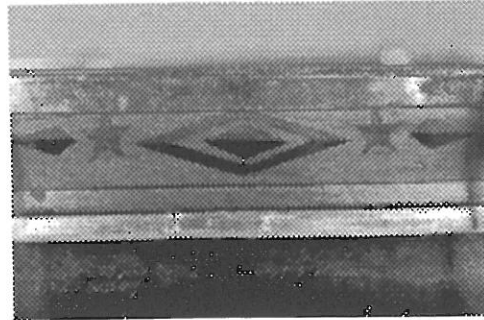
Presentation badge.



Leather tug.



Strainer.



Rim decoration.

Catalog Number: NMM 2821.

Date: Between 1884 and 1906.

Maker: John C. Haynes and Company.

Location: Boston.

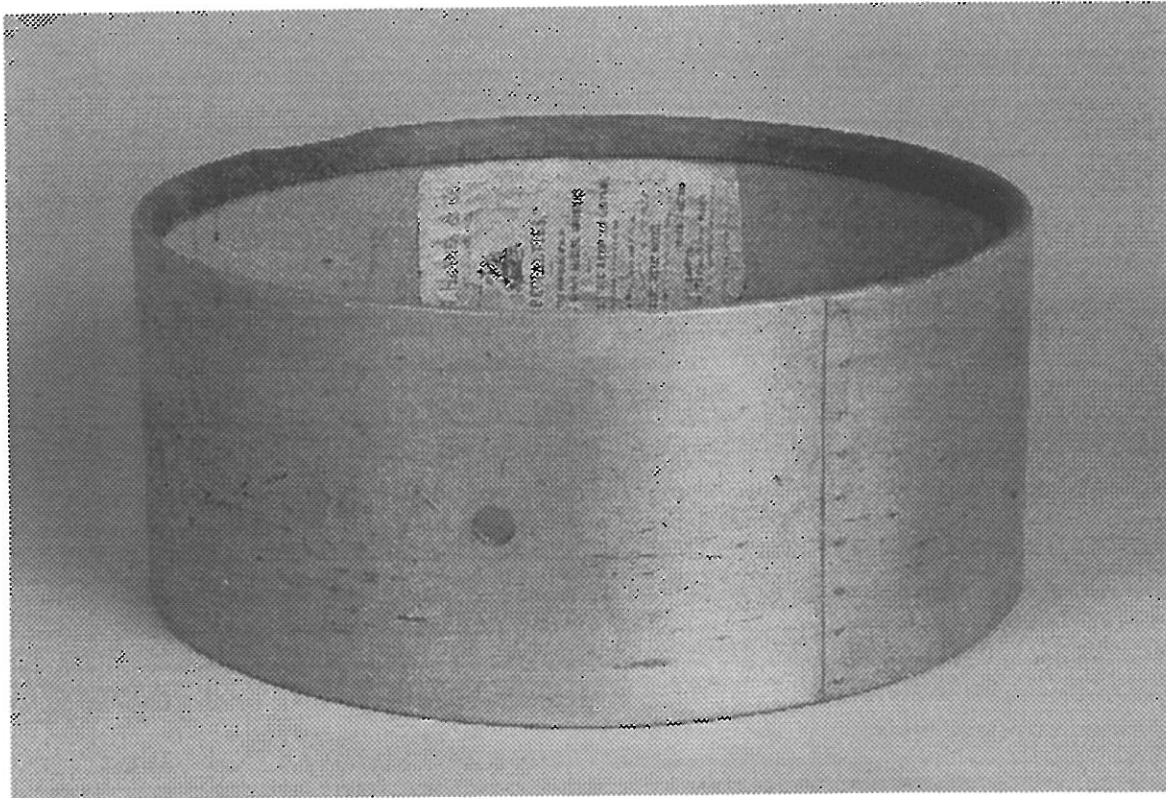
Label: Paper label inside shell: *JOHN C HAYNES & CO. / [?] ST., BOSTON, MASS. / [drawing of musical instruments] / "SPECIALTIES," / THE ORIGINAL WM. B. WILTON'S GOLD MEDAL GUITARS / - AND - / HAYNES' EXCELSIOR AMERICAN GUITARS / were awarded Highest Prize Medal at Boston, 1884. / Genuine Meyer Flutes and Piccolos. / [?] MUSIC BOXES FOR CHILDREN. / [E]LEGANT MUSIC BOXES, / [?] PRICES, FROM \$5.00 to \$500.00 EACH. / CLARINETS GUNKEL CLARINETS / J. T. L. CLARINETS / [La]rge Cloos' American Clarinets, Flutes and Piccolos. [ever]y Musical Instrument, from the cheapest to the best will be found / [?] well-known old stand. / CORRESPONDENCE SOLICITED.*

Shell Material: Maple. Sanding marks are very prominent in diagonal on inside of shell. Shell reinforced by nine small nails.

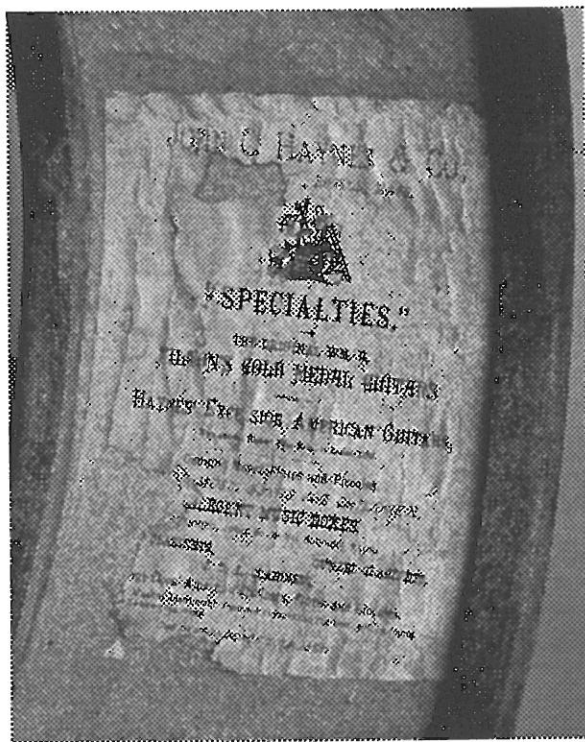
Dimensions: 171 mm (6-3/4 inches without rims) high by 392 mm (15-3/8 inches) in diameter.

Tension: Probably originally rope-tension (no rope or rods survive).

Source: Board of Trustees, 1981.



NMM 2821.



Label.

Catalog Number: NMM 3018.

Date: About 1890.

Maker: Lyon & Healy.

Location: Chicago.

Label: Paper label inside shell: *Lyon & Healy / MANUFACTURERS / Factories, Union Park / Warerooms, Wabash Ave. and Adams Street / CHICAGO.*

Model: Regulation Pattern Snare Drum.

Shell Material: Maple with maple veneer.

Dimensions: 205 mm (8 inches) high by 405 mm (16 inches) in diameter.

Tension: Rope-tension with twelve leather tugs.

Rims: Maple rims painted to look like rosewood, each with twelve metal hooks attached through which the rope passes.

Strainer: Long snare drum strainer mounted to the batter head, with a hook over the snare head. The strainer is positioned vertically, parallel to the shell, and a metal clamp holds the snares, pulling up on them when the strainer is tightened.

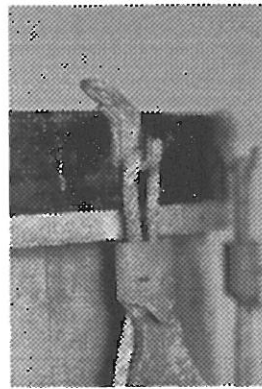
Source: Arne B. Larson Collection, 1979.



NMM 3018.



Strainer.



Rope hook.

Catalog Number: NMM 229.

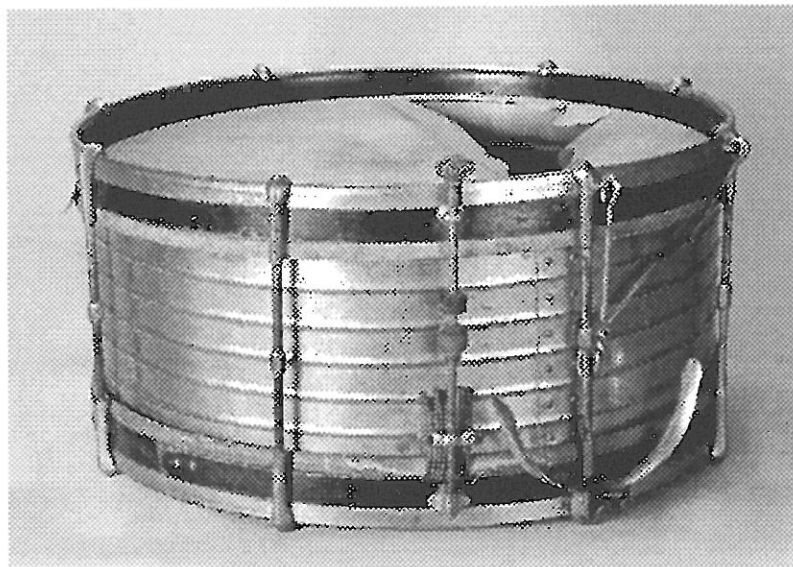
Date: About 1890.

Maker: Lyon and Healy.

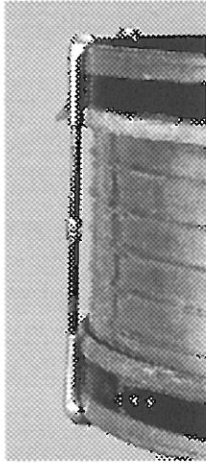
Location: Chicago.

Label: None.

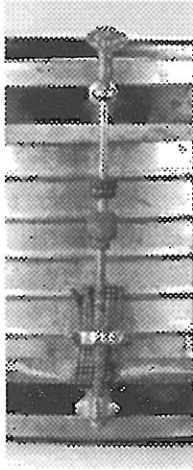
- Shell Material:** Nickel-plated brass with five beads. Six pairs of rivets reinforce the shell overlap.
- Dimensions:** 199 mm (7-7/8 inches) high by 409 mm (16 inches) in diameter.
- Tension:** Single. Eight nickel-plated patent rods with center tightener (according to Lyon and Healy 1886 catalog).
- Rims:** Walnut painted black (the paint has worn away in some areas). Metal top bands.
- Strainer:** Long shell adjuster, mounted vertically, parallel to the shell.
- Other:** Identical drum featured in the 1886 Lyon and Healy catalog. It was sold as a Patent rod snare drum.
- Source:** Arne B. Larson Collection, 1979.



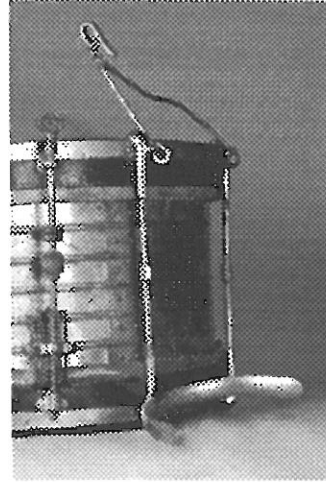
NMM 229.



Rod.



Strainer.



Leg rest.

Catalog Number: NMM 10,142.

Date: About 1893.

Maker: Lyon & Healy.

Location: Chicago.

Label: None.

Shell Material: Figured maple.

Dimensions: 243 mm (9-1/2 inches) high by 410 mm (16-1/4 inches).

Decoration: Ornately inlaid shell, utilizing seven different colors of wood. The primary decoration features a natural horn, natural trumpet, and open musical score in the middle of a floral design which is inset on a darker section of wood.

Tension: Rope-tension with ten leather tugs.

Rims: Maple rims inlaid with a decorative pattern of interlocking lines in three colors of wood.

Strainer: The current strainer is not original. There is a small hole in the shell where the original strainer would have been mounted. The washer behind the strainer also says Ludwig & Ludwig. The current strainer is a military strainer, positioned vertically, parallel to the shell.

Other:

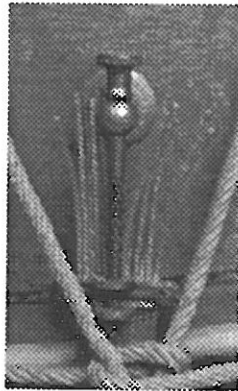
According to William F. Ludwig, this drum was exhibited at the 1893 Columbian Exposition in Chicago. It is an example of a top-of-the-line Lyon & Healy drum during the 1890s and appears in their catalogs.

Source:

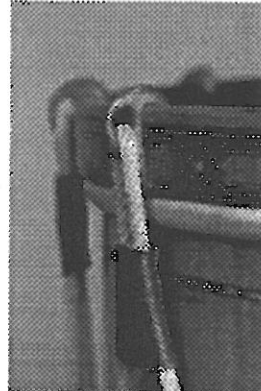
William F. Ludwig II Collection, 2002.



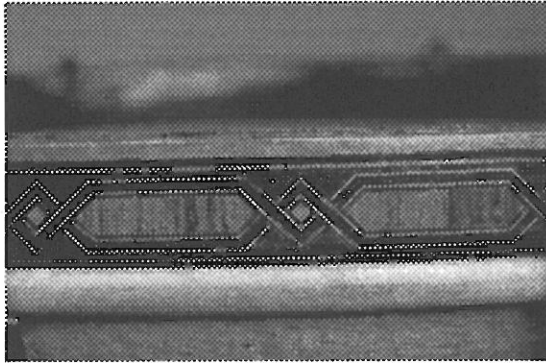
NMM 10,142.



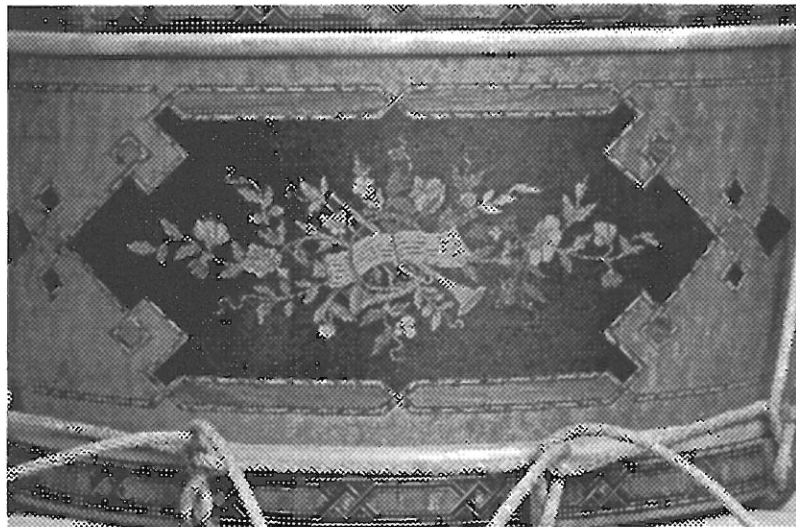
Strainer.



Rope Hook.



Rim.



Shell decoration.

Catalog Number: NMM 2972.

Date: Between 1894 - 1906.

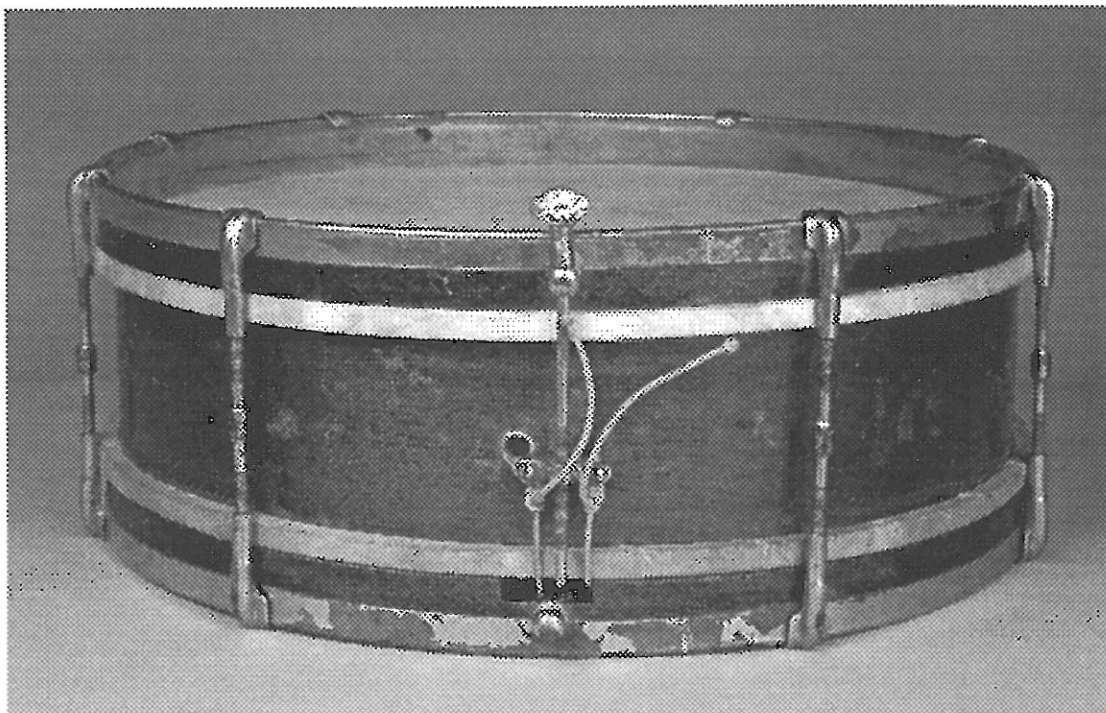
Maker: Lyon & Healy.

Location: Chicago.

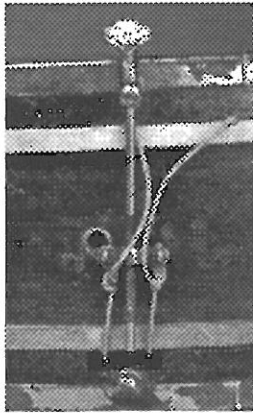
Label: Paper label inside drum: *Lyon & Healy / MANUFACTURERS / Factories, Union Park. / Warerooms, Wabash Ave. and Adams St. / CHICAGO / D-3826.*

Maker Information: The drum was built after 1894, when the Lyon and Healy factory moved to the Wabash Avenue address.

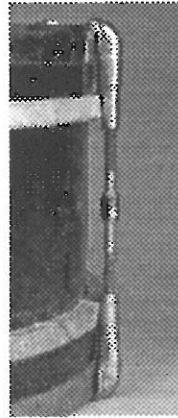
- Model:** No. 172.
- Shell Material:** Maple with walnut veneer.
- Dimensions:** 162 mm (6-5/8 inches) high by 411 mm (16-1/8 inches) in diameter.
- Tension:** Single-tension with eight nickel-plated rods, with a hook at each end. The rods are adjusted in the middle with a single nut that tightens or loosens the adjustment on both heads together. The 1906 Lyon and Healy catalog describe these as "patent rods and trimmings," but no patent number or date is listed.
- Rims:** Maple with walnut veneer and metal top band.
- Strainer:** Shell strainer, which the 1906 Lyon and Healy catalog describes as a nickel-plated brass long pattern strainer, No. N8. Mounted vertically, parallel to the shell.
- Lyon and Healy offered this style of drum at least as early as 1886.
- Source:** Arne B. Larson Collection, 1979.



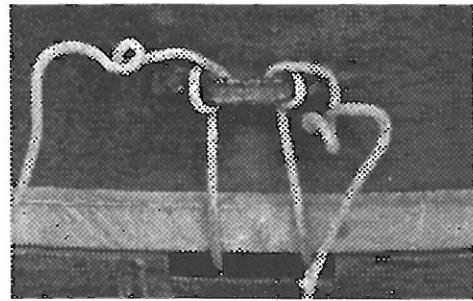
NMM 2972.



Strainer.

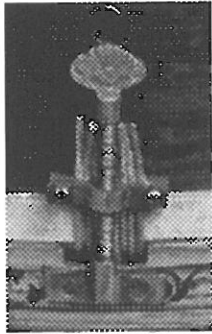


Lug.

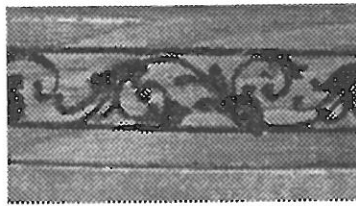


Butt plate.

- Catalog Number:** NMM 2876.
- Date:** About 1900.
- Maker:** Lyon and Healy.
- Location:** Chicago.
- Label:** None.
- Model:** Prussian Model. Lyon and Healy sold these drums with both metal and wood shells (see Chapter Two, p. 44). The drum has a metal leg rest, so that it can be worn in the Prussian style.
- Shell Material:** Rosewood.
- Dimensions:** 201 mm (7-15/16 inches) high by 424 mm (16-5/8 inches) in diameter.
- Decoration:** Eagle decal. Slightly different decals can be found on NMM 2979 (p. 184), NMM 225 (p.196), and on drums pictured in Carl Fischer catalogs.
- Tension:** Single-tension with eight large metal rods. The rods pass through metal eyelets with double-claw hooks that grasp the rims. The rods each have a square top and can be adjusted by a drum key. An ornate key is included with this drum.
- Rims:** Ash, decorated with a painted scroll pattern, which can be found on drums pictured in Carl Fischer and Lyon and Healy catalogs.



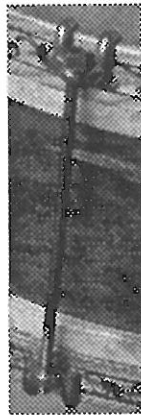
Strainer.



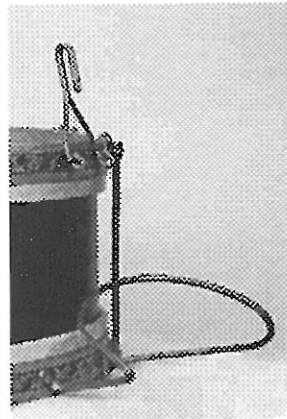
Rim decoration.



Drum key.



Lug.



Leg rest.



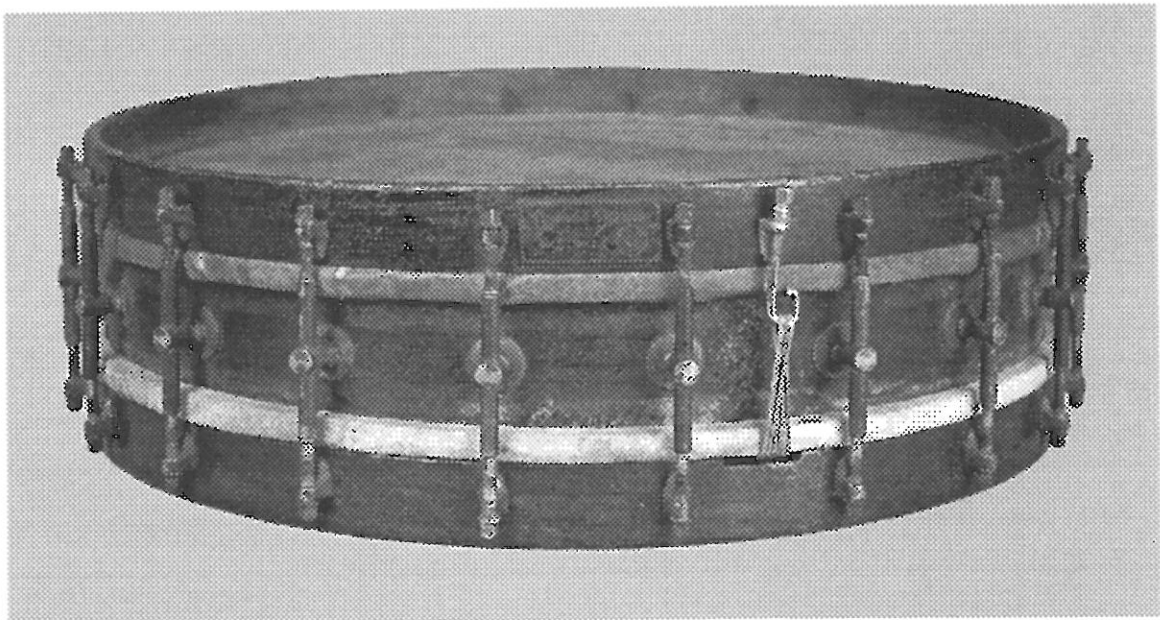
Eagle decal.



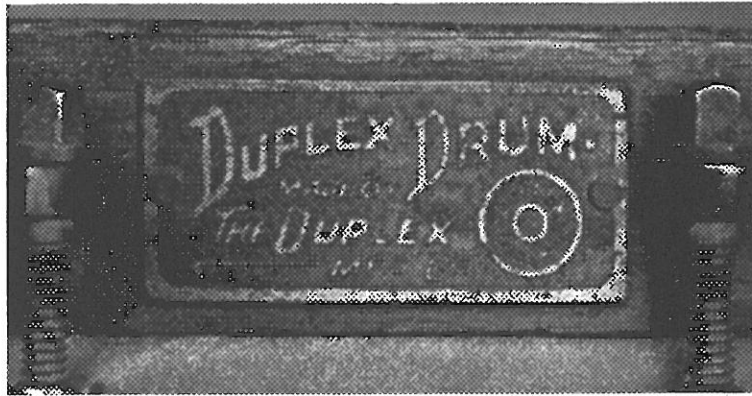
NMM 2979 Eagle decal.

Catalog Number: NMM 9512.
Date: 1900-1910.¹⁹
Maker: Duplex Manufacturing Company.
Location: St. Louis, Missouri.

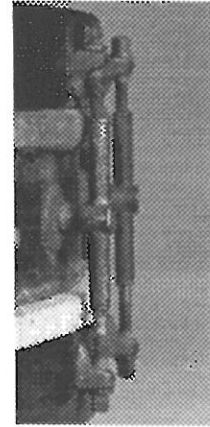
- Label:** A metal badge affixed to the batter head rim reads in gold writing on a black background: *DUPLEX DRUM / MADE BY / THE DUPLEX MFG. CO. / DUPLEX TRADEMARK.*
- Shell Material:** Maple with rosewood veneer.
- Dimensions:** 129 mm (5-1/8 inches) high by 407 mm (16-1/16 inches) in diameter.
- Tension:** Separate-tension drum with twenty, center-post lugs, with rods that pass through metal eyelets that are mounted directly to the rims of the drum. This method of mounting the rods is from Boulanger's 1887 patent, which eliminates his earlier method of double claw hooks. The top of each rod is square, fitting a standard drum key or a piano tuner's wrench.
- Rims:** Maple with rosewood veneer.
- Strainer:** The simple J-hook strainer is obviously a replacement, being made of stainless steel, which does not match the rest of the nickel-plated hardware that has darkened from age. Opposite the strainer is a large screw, also not original, over which the snares loop.
- Source:** Arne B. Larson Estate, 1988.



NMM 9512.



Badge.



Lug.

Catalog Number: NMM 10,143.

Date: After 1900.

Maker: J. W. Pepper.

Location: Philadelphia.

Label: Inside the drum a paper label located across from the vent hole reads: *J.W. PEPPER / MANUFACTURER OF / DRUMS / MUSICAL INSTRUMENTS / MUSIC AND MUSICAL MERCHANDISE / EIGHTH AND LOCUST STREETS, PHILADELPHIA, PA.*

Model: J. W. Pepper Peerless model drum (see also NMM 2875 p. 155).

Shell Material: Maple.

Dimensions: 203 mm (7-7/8 inches) high by 415 mm (16 inches) in diameter.

Tension: Separate-tension. The drum has the patented 1892 tensioning system by Adolph G. Soistmann and James W. Pepper, based around a set of eight, shell-mounted metal studs. These studs are mounted in a wood center support ring around the outside of the drum, and support a wire network that connects to the lugs. There are twelve rods that hook onto the rims and attach to the wires. At the top of each hook is a screw that is tightened to pull down on the rim. One lug nut is currently missing from each head. See Chapter Three, p. 61 for more information.

Rims: Maple rims with rosewood veneer, decorated with a nickel-plated strip around the center.

Strainer: The strainer is a typical J. W. Pepper shell-shaped snare adjuster stamped: *PAT. 1.23.1900*. This patent refers to the butt plate which has a series of four hooks over which the snares loop. Each hook can be individually adjusted to give the player maximum control over the tightness of the snares.

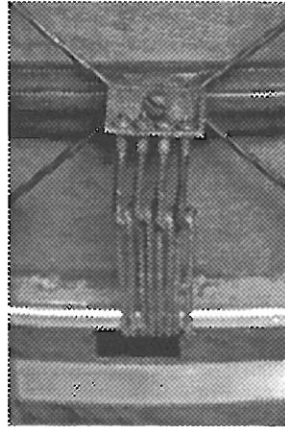
Source: William F. Ludwig II Collection, 2002.



NMM 10,143.



Strainer.



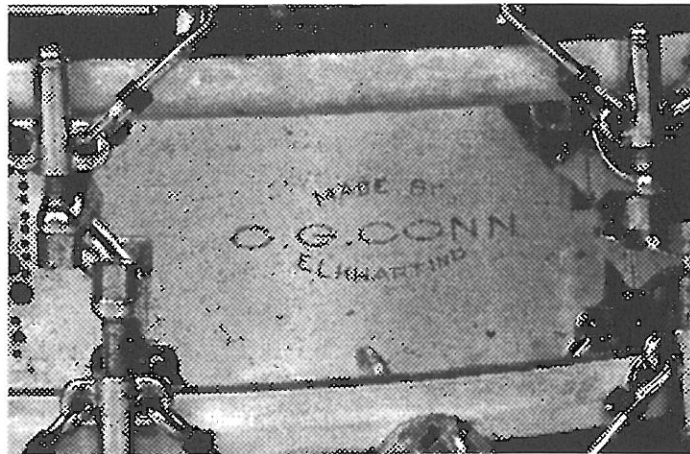
Butt plate.

- Catalog Number:** NMM 2996.
- Date:** Between 1904 and 1915.
- Maker:** C. G. Conn.
- Location:** Elkhart.
- Label:** Stamped on shell: *MADE BY / C. G. CONN / ELKHART IND.*
- Additional Markings:** Spelled out in perforations made around the shell (small vent holes): *C. G. Conn* continuously around the shell.
- Shell Material:** Nickel-plated brass.
- Dimensions:** The shell height ranges from 137 mm (5-3/8 inches) to 146 mm (5-1/2 inches) and the diameter is approximately 374 mm (14-3/4 inches).
- Decoration:** Perforations spelling out *C. G. Conn*, which circle the shell.
- Tension:** Separate-tension. There are ten of Conn's patented V-shape rods. The rods were first patented in 1886, and improved in 1887. There are two significant differences on this drum from the patent. First, a third rod has been added across the top to make the lug design a perfect triangle. Second, each V rod is mounted into a post in the center of the shell and the tension on that V rod can be adjusted independently. In the earlier models, the V-rods were paired, one for the snare head and one for the batter head, and had to be adjusted together.

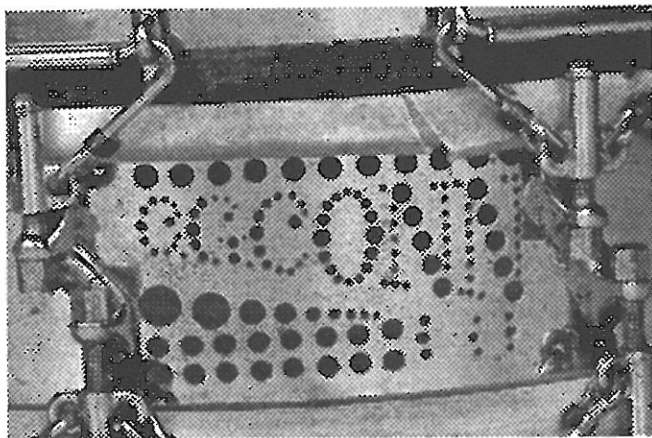
- Rims:** Wood painted black. Metal decorative band circles the outside.
- Strainer:** Two strainers control two sets of snares, one for the batter head and one for the snare head. The batter head strainer is a snare adjuster mounted vertically on the snare head rim, parallel to the rim, inverted from the normal position. The second strainer, mounted on the snare head, is stamped: *PAT. MAR. 29.04* (U. S. patent #755,610 by Harry A. Bower, Boston was sold to Conn). This strainer was called The Wonder Snare Strainer Device. It consists of a throw-off mechanism which removes the snares from both sides of the drum at the same time. The strainer uses “arms” that reach over the rims in order to hold the snares in place against the snare head.
- Other:** The June 9, 1888, issue of *The American Musician* notes the following about Conn’s perforated shells: “[C. G. Conn] has also in his factory a department devoted to the manufacture of the new ‘Conn’ drum with corrugated shell, so that it will not buckle, and each drum also has a new and patented tightener. These drums are having a very large sale, and are highly spoken of.” Margaret Downie Banks, Curator NMM (1976 - present) in her *Elkhart’s Brass Roots*, 1994, p. 32, states that this drum was featured on the company’s letter head for many years and sold in catalogs into the 1920s.
- Source:** Arne B. Larson Collection, 1979.



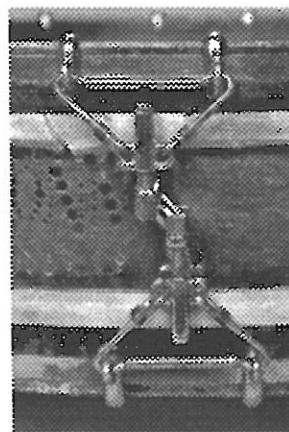
NMM 2996.



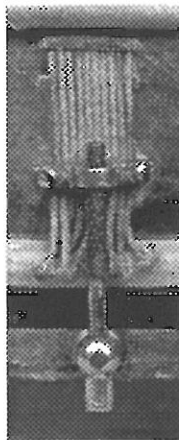
Engraved on shell.



Perforations in shell.



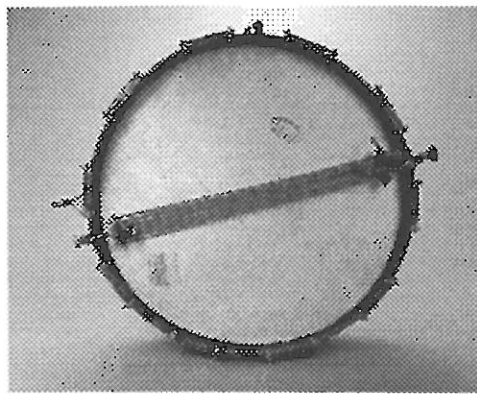
V Lugs.



Batter head strainer.



Snare head strainer.



Snares along snare head.

Catalog Number: NMM 10,045.

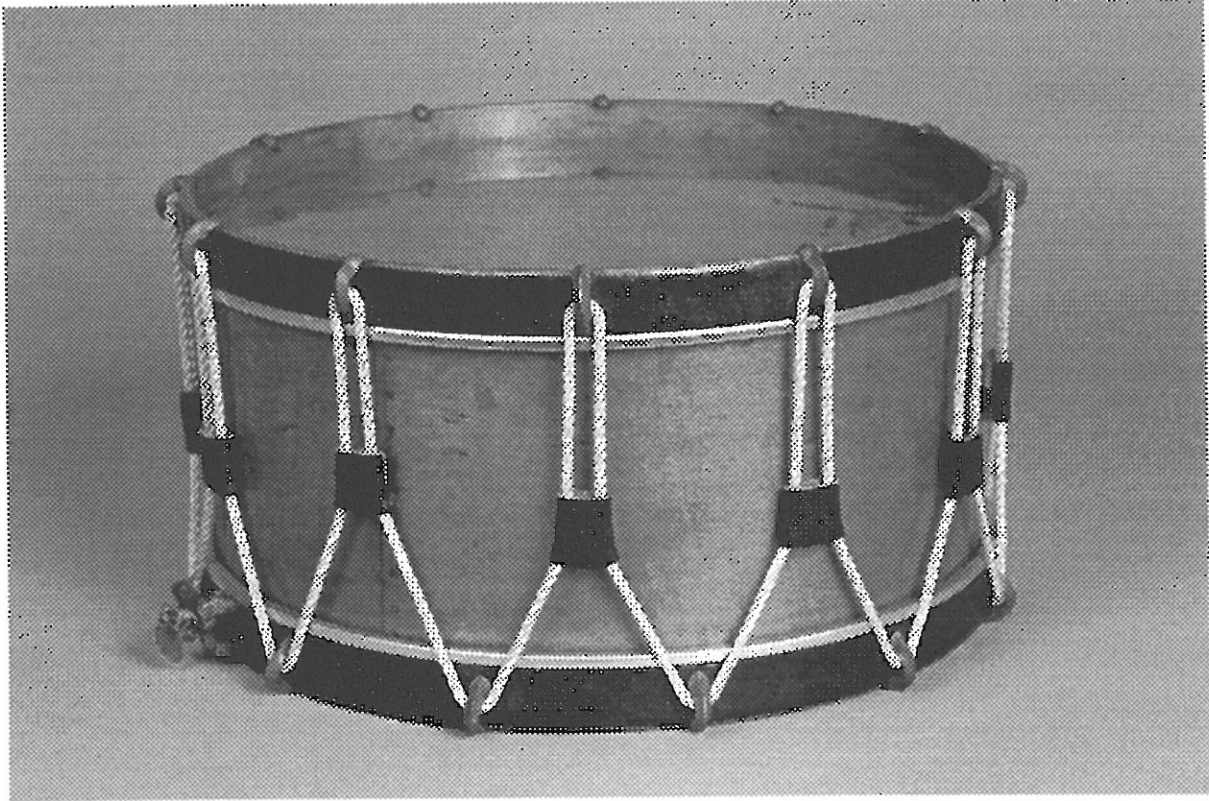
Date: 1905.

Maker: J. B. Treat and sold by Thompson and Odell.

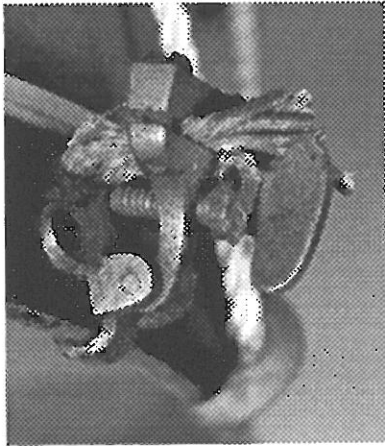
Location: Boston.

Maker Information: Thompson and Odell was a prominent firm that sold guitars, banjos, and published music.²⁰ The company first moved to Washington Street, though not the address listed above, in the 1880s. In the 1890s they began producing Artist brand banjos, and then carried the brand name over to other instruments, such as this Artist snare drum. The company was bought out by the Vega company in 1898.²¹

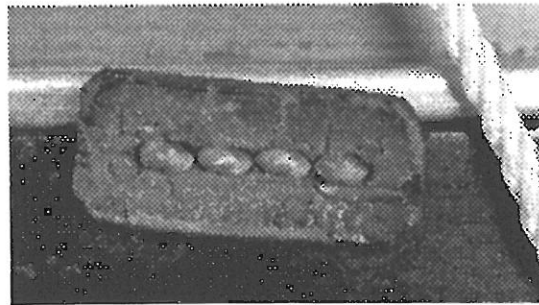
- Label:** A lengthy label and advertisement for Thompson and Odell is affixed to the inside of the shell. Among much information is the following: *THE CELEBRATED / "ARTIST DRUM." / MADE BY / J. B. TREAT. / THOMPSON & ODELL, / No. 177 Washington Street, / BOSTON, MASS.* Handwritten on the label is: Nov. 1905. and the name (twice): *Clifon J. Lavell*. At the bottom there is some writing that is illegible; it appears to say: *Attn. W* (and then a name).
- Model:** Artist model drum.
- Shell Material:** Maple.
- Dimensions:** 25 mm (8-7/8 in.) high by 421 mm (16-9/16 in.) in diameter.
- Decoration:** Light finish.
- Tension:** Rope-tension with twelve leather tugs.
- Rims:** Maple rims painted black on the exterior, with natural varnish on the interior. There are twelve metal hooks through which the rope passes. Each hook sits in a groove on the rim, and the tension from the rope keeps them in place. Each hook is stamped: *PAT. 1-14-05*.
- Strainer:** The brass snare adjuster is positioned horizontally, perpendicular to the shell, and mounted on the snare head rim. The adjuster pushes a screw into the rim, which stretches the snares against the snare head.
- Other:** Handwritten inside the shell are several numbers. The number 8 is written twice near the batter head rim, and the number 3 is written near the snare head rim. The instrument was owned by the great cymbal maker, Armand Zildjian, who gave it to William F. Ludwig II.
- Source:** William F. Ludwig II Collection, 2001.



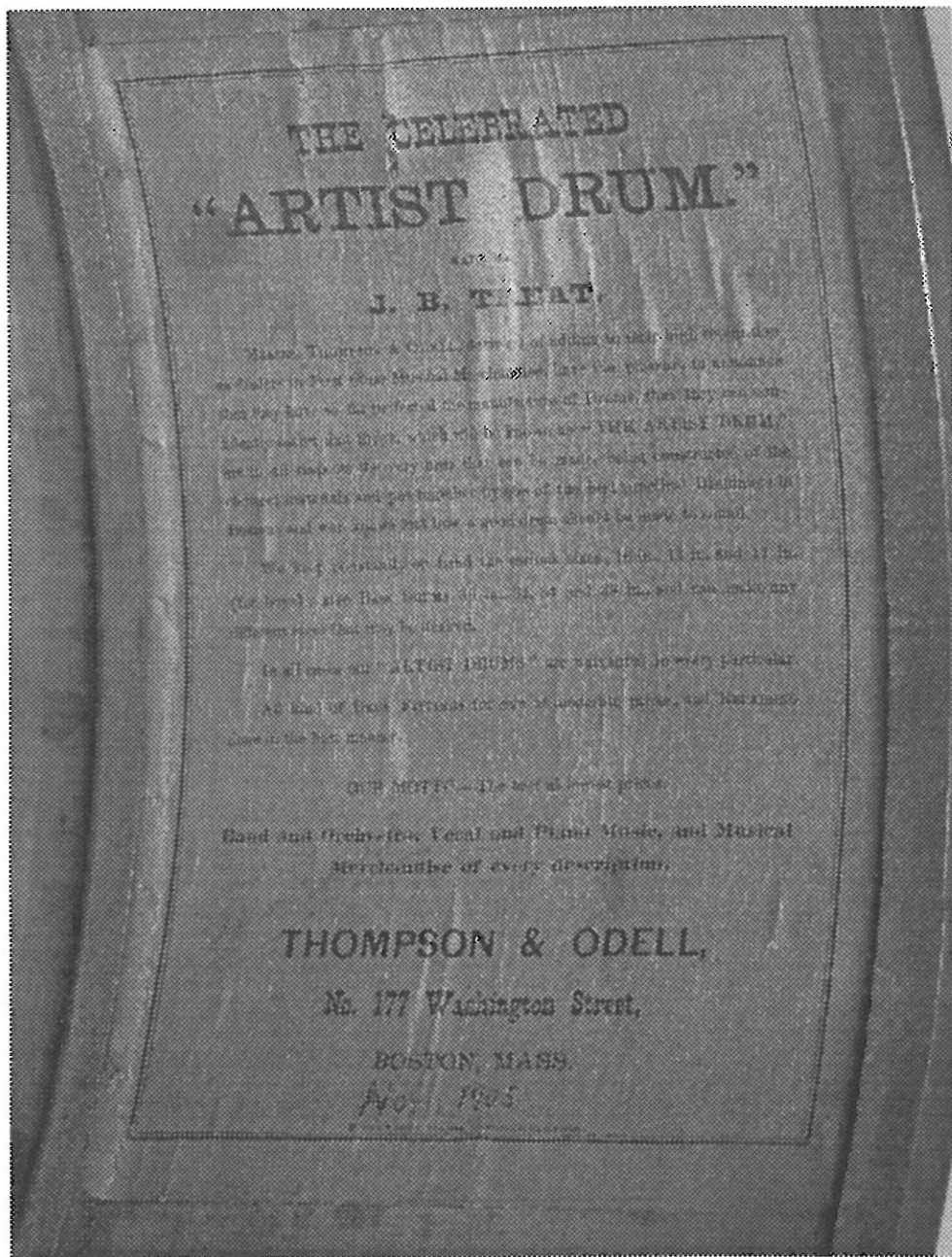
NMM 10,045.



Strainer.



Leather strap.



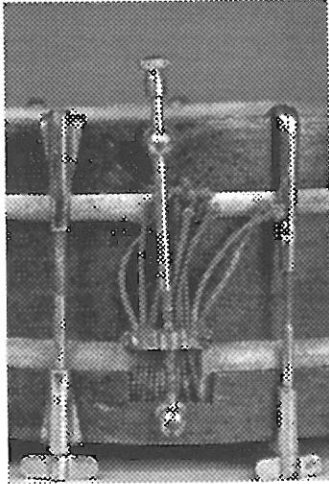
Label.

Catalog Number: NMM 3010.
Date: About 1905.
Maker: Lyon & Healy.
Location: Chicago.

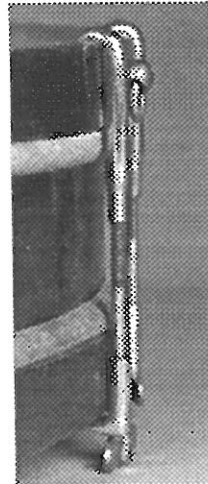
- Label:** Paper label inside drum reads: *Lyon & Healy / Factories, Healy Station / Warerooms, Wabash Ave. and Adams St. / CHICAGO.*
- Shell Material:** Maple with walnut veneer.
- Dimensions:** Approximately (shell has warped) 132 mm (5-1/8 in.) x 403 mm (15-7/8 in.).
- Tension:** Single-tension with fourteen thumb-rod screws (four have been replaced).
- Rims:** Maple with walnut veneer.
- Strainer:** Long screw strainer with a knob adjustment on top mounted to the drum vertically, parallel to the shell, which pulls up on the snares to tighten them against the snare head.
- Other:** Hook where a strap would attach so that this drum could be played while marching.
- Source:** Arne B. Larson Collection, 1979.



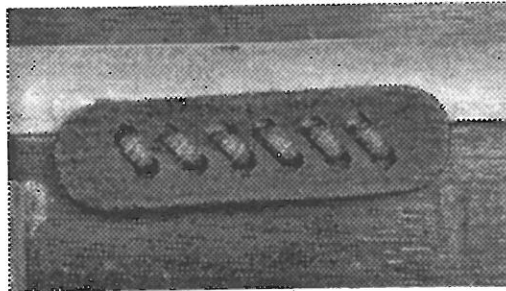
NMM 3010.



Strainer.



Lug.



Leather strap.

- Catalog Number:** NMM 706.
- Date:** About 1905.
- Maker:** Unknown.
- Location:** U.S.A.
- Label:** None.
- Additional Markings:** Stamped on lugs: *PAT. JUN. 27 05.*
- Shell Material:** Bird's eye maple.
- Dimensions:** 87 mm (3-1/2 inches) high by 369 mm (14-1/2 inches) in diameter.
- Decoration:** Light colored varnish.

- Tension:** This drum has only one head and the snares run underneath. Simple rods with hooks on either end pull on the rim to tighten or loosen the head. Hexagonal nuts that can be turned by hand are used to tighten the rods.
- Rims:** Maple painted black.
- Strainer:** Adjuster mounted inside the shell. The snares run along the batter head and are held against the shell edge by a metal block. The ends of the snares are clamped together and a screw pushes against the clamp vertically, moving it closer or further from the edge of the shell and controlling the tension on the snares. The metal thumb-screw passes through a hole in the shell and is exposed, so that a player can easily adjust the tension.
- Other:** Single-head snare drums were sold by most drum manufacturers between 1900 and about 1915. Single-head snare drums were sold to vaudeville trap drummers who had to travel lightly with little luggage on trains between jobs. The drums take up little space and are light in weight. They can be found in Lyon & Healy, J. W. Pepper, Carl Fischer, Wurlitzer, Jenkins, and Duplex catalogs from the time period. See also NMM 2754 (p. 147) and NMM 4023 (p.148) below.
- Source:** Arne B. Larson Collection, 1979.



NMM 706.

Catalog Number: NMM 2754.

Date: Between 1905 and 1915.

Maker: Probably distributed by J. W. Jenkins & Sons.

Location: Kansas City, Missouri.

Label: None.

Model: Special Single Head Drum No. B150.

Shell Material: Maple with maple veneer.

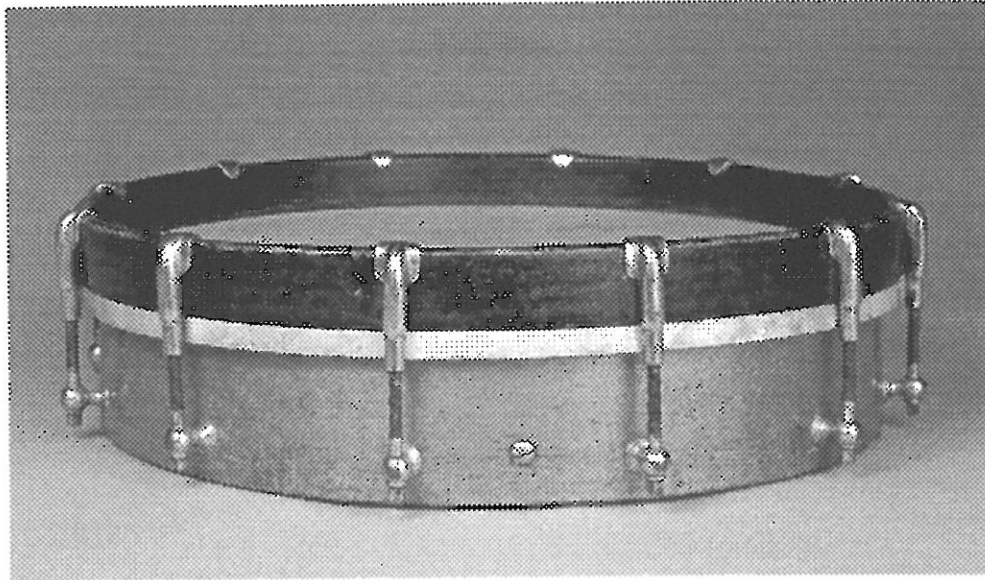
Dimensions: Warped shell is approximately 104 mm (4 in.) high by 371 mm (14-1/2 in.) in diameter.

Tension: Single head drum. Twelve rods, with a clasp on the rim, are mounted in posts in the shell. A drum key adjusts the tension on the rods.

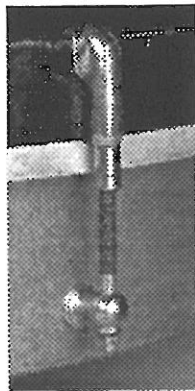
Rims: Maple painted in imitation rosewood.

Strainer: Snare adjuster, mounted vertically upside down, parallel to the shell on the interior.

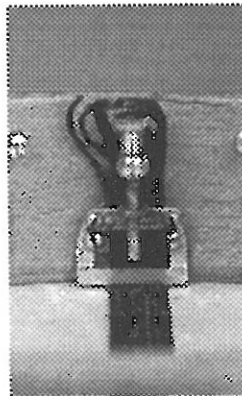
Source: Arne B. Larson Collection, 1979.



NMM 2754.



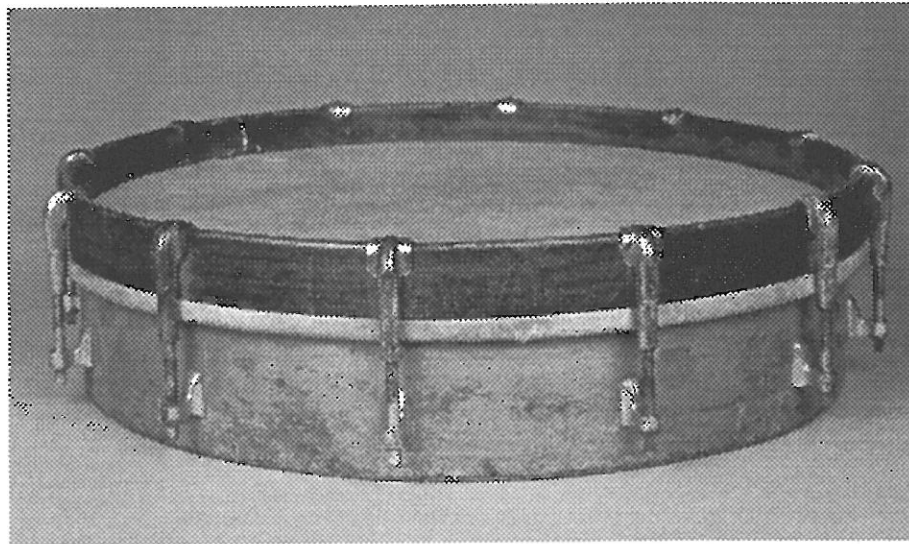
Lug.



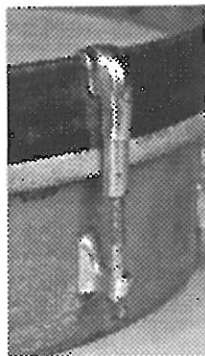
Strainer.

Catalog Number: NMM 4023.
Date: Between 1905 and 1915.
Maker: Probably distributed by J.W. Jenkins & Sons.
Location: Kansas City, Missouri.
Label: None.
Model: Special Single Head Drum No. B150.

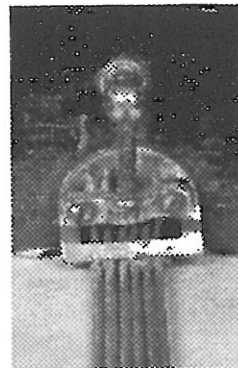
- Shell Material:** Maple with birds' eye maple veneer.
- Dimensions:** Warped shell is approximately 104 mm (4 inches) by 371 mm (14-1/2 inches) in diameter.
- Tension:** Single head drum (see 706 and 2754 above). Twelve single clasp lugs attach to rim and are mounted in posts on the shell. A drum key is necessary to adjust the tension.
- Rim:** Single rim, maple painted in imitation rosewood.
- Strainer:** The strainer is a snare adjuster, not original to the instrument. It is positioned on the interior of the drum, vertically, upside down, parallel to the shell.
- Source:** Gift of Henry J. Ziegler, Jr., Pierre, South Dakota, 1986.



NMM 4023.



Lug.



Strainer.

Catalog Number: 2978.

Date: About 1910.

Maker: Lyon & Healy.

Location: Chicago.

Label: Badly deteriorated paper label reads: *Lyon & Healy / Factories, Healy S. / Warerooms, Wabash Ave. and Adams St. / CHICA.*
Handwritten on label: 1882

Shell Material: Maple with birds' eye maple veneer.

Dimensions: 106 mm (4-1/8 inches) high by 376 mm (14-3/4 inches) in diameter.

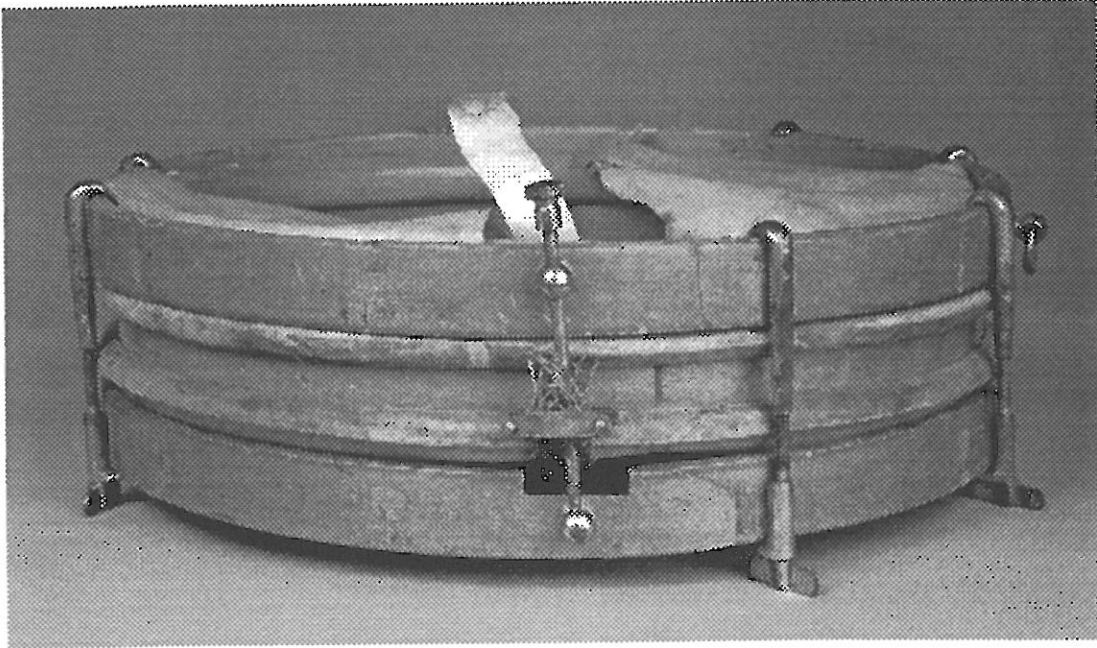
Tension: Single tension with nine thumb-rod screw lugs.

Rims: Maple.

Strainer: Long screw snare adjuster mounted vertically, parallel to the shell, which pulls up on the snares to tighten them against the snare head.

Other: A metal hoop to which a sling would attach suggests that this drum might have been used for marching.

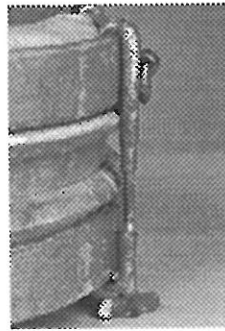
Source: Arne B. Larson Collection, 1979.



NMM 2978.



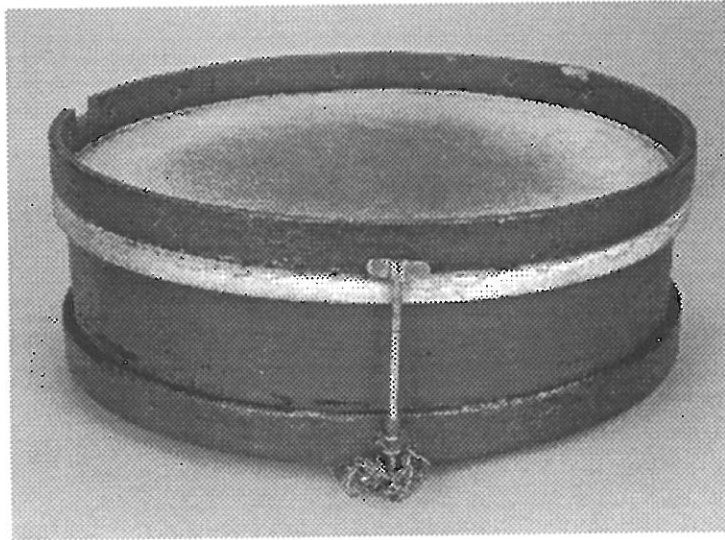
Strainer.



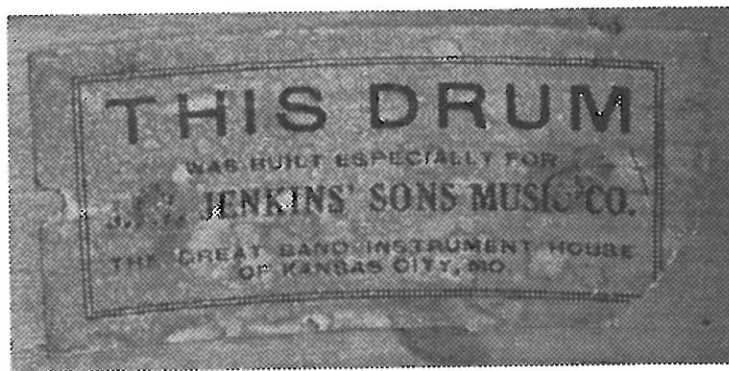
Lug.

- Catalog Number:** NMM 2625.
- Date:** About 1910.
- Maker:** Probably by Duplex Drum Company. Distributed by J. W. Jenkins' Sons Music Company.
- Location:** St. Louis.
- Label:** Paper Label inside drum: *THIS DRUM / WAS BUILT ESPECIALLY FOR / J. [W.] JENKINS' SONS MUSIC CO. / THE GREAT BAND INSTRUMENT HOUSE / OF KANSAS CITY, MO.*

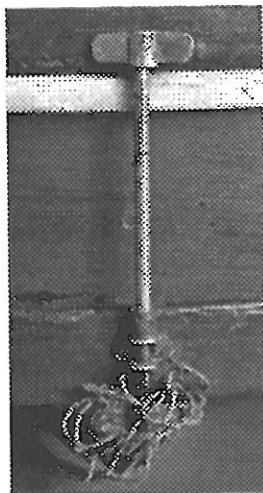
- Other Markings:** Handwritten inside shell are two names: *Jigas Peel, J Johans*. Handwritten on the snare counter hoop: *15*.
- Model:** No. B800.
- Shell Material:** Maple ply shell with oak veneer, painted a dark green at a later date.
- Dimensions:** 118 mm (4-5/8 inches) high by 411 mm (16 inches) in diameter.
- Tension:** Single-tension. There are currently eight thumb-rod screws that are not original to the instrument. Originally, this instrument was a separate-tension instrument that had 36 screw rods (eighteen for each head) that were mounted in center posts (see below).
- Rims:** Maple rims with oak veneer painted green. Each rim has eighteen holes, now filled in, that originally held mounts for the rods.
- Strainer:** Thumb-rod screw snare adjuster, not original to the instrument, positioned vertically, parallel to the rim.
- Other:** Originally, this instrument was a separate-tension drum. There are eighteen holes in the shell and eighteen holes in each rim that were filled before the drum was painted. The holes were originally for posts that held the lugs. It is likely that this instrument was built for Jenkins by the Duplex Drum Company of St. Louis. Duplex used lugs that were mounted to the shell and rims in a similar fashion (as on NMM 9512), and one of their models had eighteen lugs, an unusual number. A model similar to this drum and made by Duplex is shown in the Jenkins 1913 catalog.
- The drum is missing the snare head and the thumb-rod screw lugs are in a plastic bag.
- Source:** Arne B. Larson Collection, 1979.



NMM 2625.



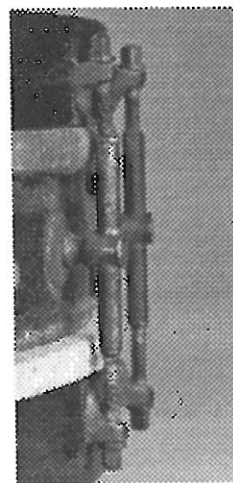
Label.



Strainer.



Original holes for lug.



NMM 9512 Duplex lug.

Catalog Number: NMM 3027.

Date: About 1910.

Maker: Harmony Musical Instrument Company

Location: Chicago.

Label: Paper label inside drum: *HARMONY DRUM / PATENTED JUNE 27TH 1905 / NOVEMBER 14 1905 / SOLD BY* (handwritten) *D. S. Johnston Co.*

Shell Material: Mahogany.

Dimensions: 260 mm (10-1/4 inches) high by 444 mm (17-1/2 inches) in diameter.

Decoration: Eight-pointed inlaid star in three colors of wood around the vent hole.

Tension: The two patents listed on the label are both for tension devices. The June patent (U. S. patent number 793,399) is for a single tension drum that has metal rods with single clasp hooks.²² The November patent (U. S. patent number 804,347) utilizes a combination rope and rod tension system.²³ There are no clues on the drum as to which this instrument was originally.

Rims: Wood painted blue.

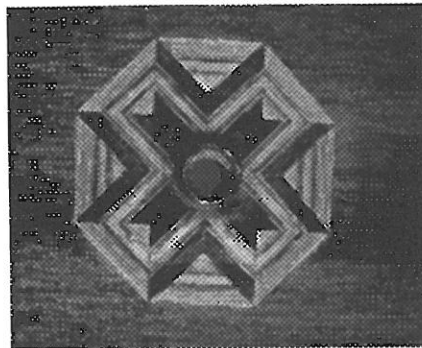
Source: Arne B. Larson Collection, 1979.



NMM 3027.



Label.



Star.

Catalog Number: NMM 2875.

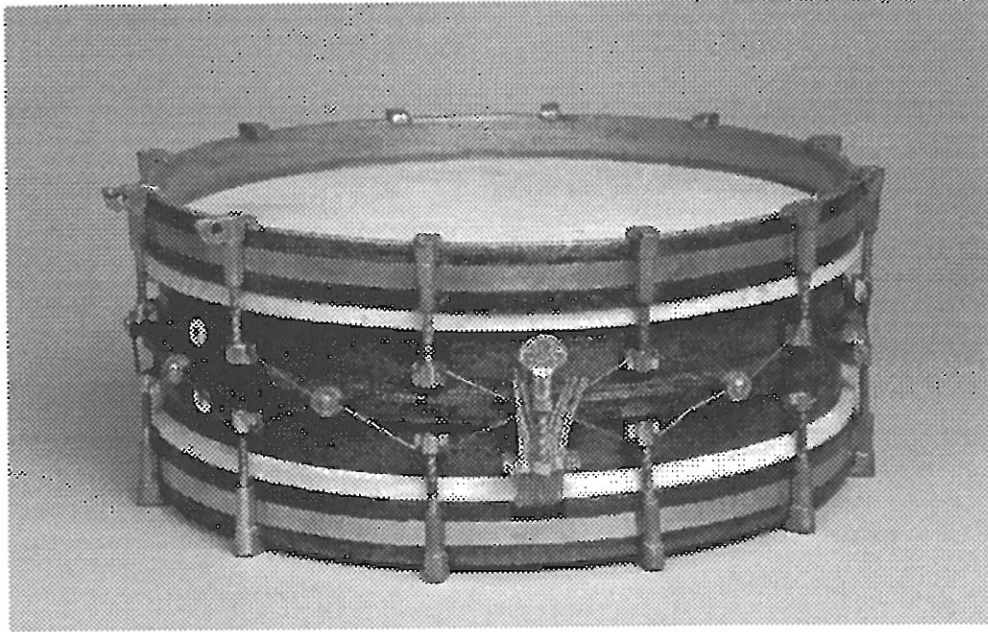
Date: After 1910.

Maker: J. W. Pepper.

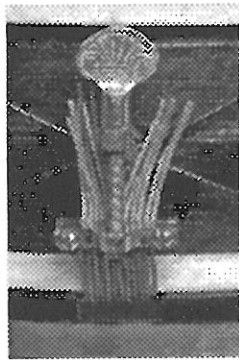
Location: Philadelphia.

Maker Information: The J. W. Pepper company moved to the Walnut Street address in 1910; previously, it was located at 8th and Locust Streets.

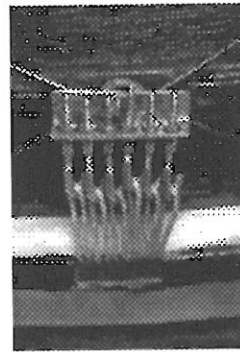
- Label:** Inside the drum is part of a paper label across from the vent hole which reads: *J. W. PEPPE[R] / MANUFACTUR[ER] / DRUMS, MUSICAL INSTRUMENTS, M (missing words) / THIRTY-THIRD AND WALNUT ST.*
- Model:** J. W. Pepper Peerless model.
- Shell Material:** Mahogany.
- Dimensions:** 175 mm (6-7/8 inches) high by 406 mm (16 inches) in diameter. There is some warping; in places, the diameter is as much as 412 mm (16-1/2 inches).
- Decoration:** Thick, dark varnish, with much craquelure.
- Tension:** The drum features the patented 1892 tensioning system devised by Adolph G. Soistmann and James W. Pepper (See NMM 10,143 p. 135).
- Rims:** Maple rims with mahogany veneer varnished a dark color to match the varnish on the shell, decorated with a nickel-plated strip around the center.
- Strainer:** The strainer is a typical J. W. Pepper shell-shaped snare adjuster, stamped: *PAT. 1.23.1900*. Again, as in NMM 10,143 above, the patent refers to the butt plate.
- Other:** This drum underwent an extensive cleaning and repair by Gary Stewart, NMM Conservator, in 1981 in preparation for exhibition. One complete tightening mechanism was fabricated, in addition to one other lug nut. Several sections of veneer that had loosened were reattached with hide glue.
- Source:** Arne B. Larson Collection, 1979.



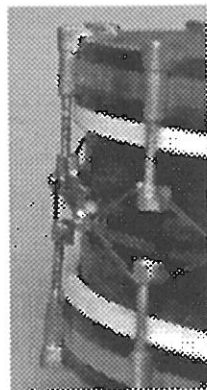
NMM 2875.



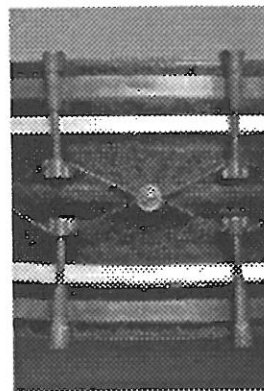
Strainer.



Hooks over which snares loop.



Rods.



Shell-mounted stud.

Catalog Number: NMM 2969.

Date: About 1911.

Maker: Ludwig & Ludwig Drum Company.

Location: Chicago.

Label: None.

Model: Ludwig All Metal Drum No. 55, featured in the 1912 catalog.

Shell Material: Brass.

Dimensions: 136 mm (5-3/8 inches) high by 391 mm (15-1/2 inches) in diameter.

Other: The top and bottom edges of the shell have been folded over towards the interior of the drum. The upturned edges were filled in with brass for stability.

Tension: Separate-tension with six, two-post, tube lugs.

Rims: Flat metal rims made of steel; eyelets are soldered on to receive the rods.

Strainer: The instrument has Ludwig's "combination" strainer, which was patented in 1912. The words: *PAT. PEND.* are stamped on the strainer, which is no longer functional.

Other: This model was the first produced by the Ludwig and Ludwig Company. It is based on the Tom Mills drum (see NMM 10,091), which Ludwig owned. The instrument may be the earliest Ludwig & Ludwig drum that exists. William F. Ludwig II has said that because it does not bear the Ludwig & Ludwig badge, it may be an extremely early prototype. He says that it is the earliest Ludwig & Ludwig drum that he has seen.

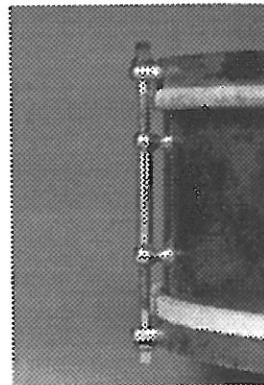
Source: Arne B. Larson Collection, 1979.



NMM 2969.



Strainer.



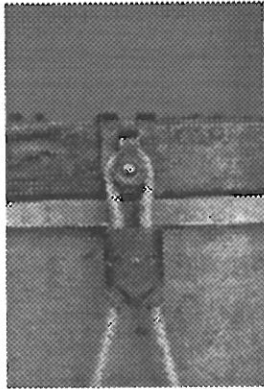
Lug.

Catalog Number: NMM 3000.
Date: Between 1911 and 1915.²⁵
Maker: Lyon & Healy.
Location: Chicago.

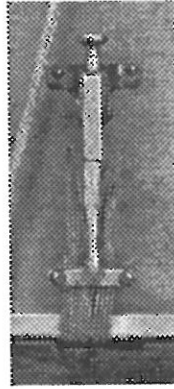
- Label:** Paper label inside drum: *Lyon & Healy / Factories, Healy Station / Warerooms, Wabash Ave. and Adams St. / CHICAGO.*
- Model:** The Monarch No. N56.
- Shell Material:** Maple with birds'-eye maple veneer.
- Dimensions:** 310 mm (12 inches) high by 451 mm (17-3/4 inches).
- Decoration:** Eight-pointed star paper label around the vent hole.
- Tension:** Rope-tension, twelve leather tugs.
- Rims:** Maple with walnut veneer, each with twelve metal roller hooks through which the rope passes. On the batter head rim there are small circle indentations, probably from a music lyre mounted to the rim.
- Strainer:** Imitation of Ludwig & Ludwig combination strainer, positioned vertically, parallel to the shell.
- Source:** Arne B. Larson Collection, 1979.



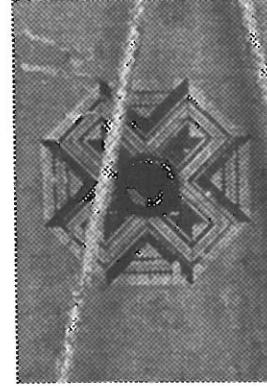
NMM 3000.



Rope Hook.



Strainer.



Label around vent hole.

Catalog Number: NMM 10,144.

Date: About 1913.

Maker: Adelmour M. Hoskins.

Location: Minneapolis.

Label: Oval, brass badge, brass lettering on black enamel, stamped: *A.M. HOSKINS / DIFFERENTIAL TENSION RODS / PAT. NOV. 6, 1913 / MINNEAPOLIS, MINN.*

Shell Material: Mahogany.

Dimensions: 145 mm (6 inches) high by 360 mm (14 inches).

Tension: Separate tension. According to the patent and the drum, Hoskins referred to his unique invention as "Differential adjusting rods." These rods are thumb-rod screws that are drilled directly into the rims, not utilizing hooks, as was commonly done by other manufacturers at the time. On the snare head rim, there are ten sets of two thumb-rods stacked on top of each other, for each lug. The thumb-rod screw farthest away from the drum controls the tension on the batter head, the second screw controls the snare head. The two lug rods are mounted by a metal bracket on the shell of the drum, and the two ends screw into each other. Because of the positioning of the thumb-rod screws, the tensioning can be changed on either head individually, or both together.

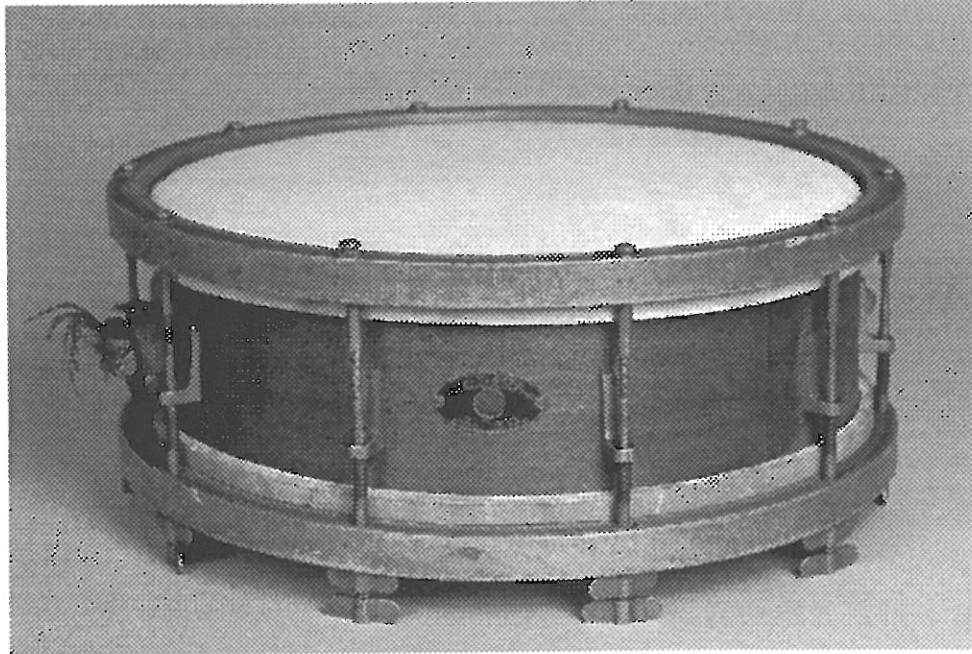
Rims: Six-ply maple rims, with six layers of maple in concentric circles.

Strainer:

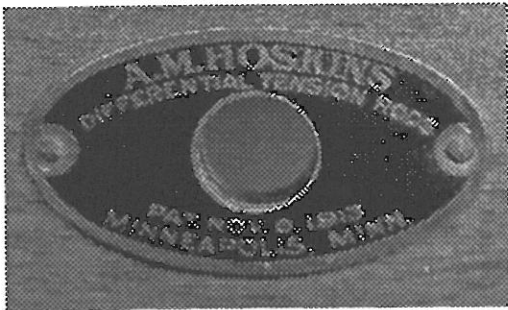
Iron snare adjuster. A small “paddle-wheel” knob allows the player to adjust the tension. When the knob is turned, a screw moves a mechanism that clamps the snares up, creating more tension on the snares.

Source:

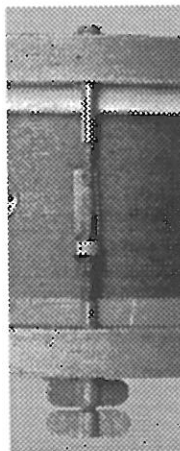
William F. Ludwig II Collection, 2002.



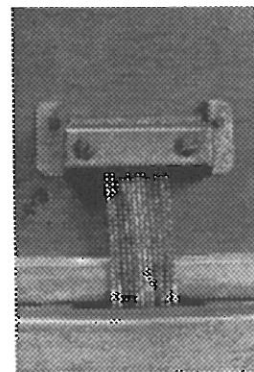
NMM 10,144.



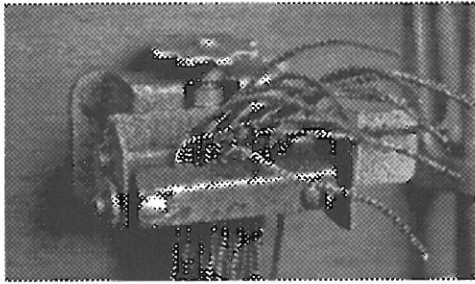
Badge.



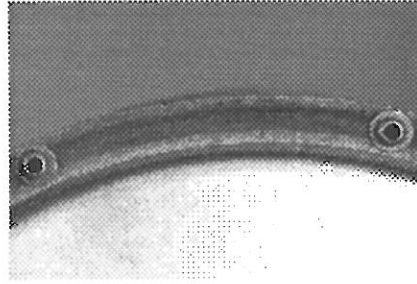
Rod.



Butt plate.



Strainer.



Batter rim.

- Catalog Number:** NMM 1056.
- Date:** About 1915.
- Maker:** Leedy Manufacturing Company.
- Location:** Indianapolis.
- Label:** An oval, brass badge on the batter head rim reads: *Leedy Mfg. Co / INDIANAPOLIS, IND.*
- Additional Markings:** Branded inside the drum is the following: *MADE BY LEEDY MFG. CO. INDPLS IND.* Stamped on the interior of the drum shell are the following numbers, which may be production numbers or serial numbers of some sort: 0 / 8918 / 00. Also written in pencil inside the shell is an illegible name (maybe initials MW) and *10 x 17.*
- Model:** Leedy Band Drum No. 190. It appears in the company's 1916 catalog.
- Shell Material:** Maple veneer over maple.
- Dimensions:** 252 mm (10 inches) high (without rims) by 450 mm (17 inches) in diameter.
- Tension:** Single-tension. Originally had fourteen thumb-rod screws (see NMM 804), but only eleven remain.
- Rims:** Maple.
- Strainer:** Utility strainer, which was Leedy's first throw-off strainer, patented in 1911. The following is stamped on the strainer: *LEEDY MFG CO / PAT. DEC. 12 11.*

Other:

Screwed into the batter rim above the strainer is a hook, consisting of a flat piece of metal with a hole in it, which protrudes above the batter head rim. This hook was to attach a sling. The drum is currently stored in a canvas bag, which may have been original to the instrument.

Source:

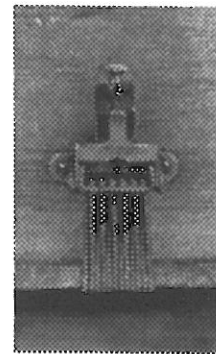
Arne B. Larson Collection, 1979.



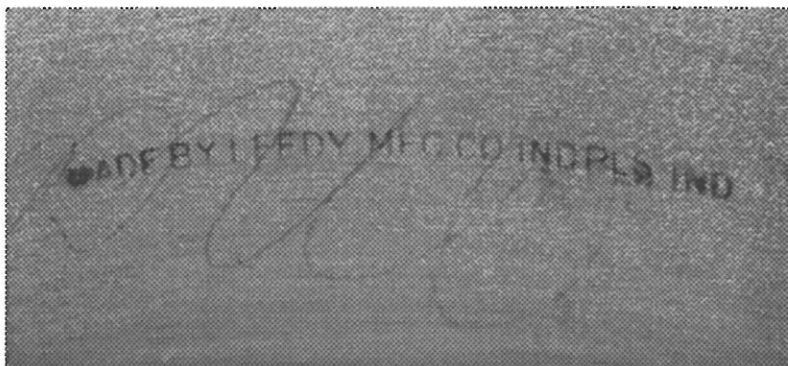
NMM 1056.



Badge.



Strainer.

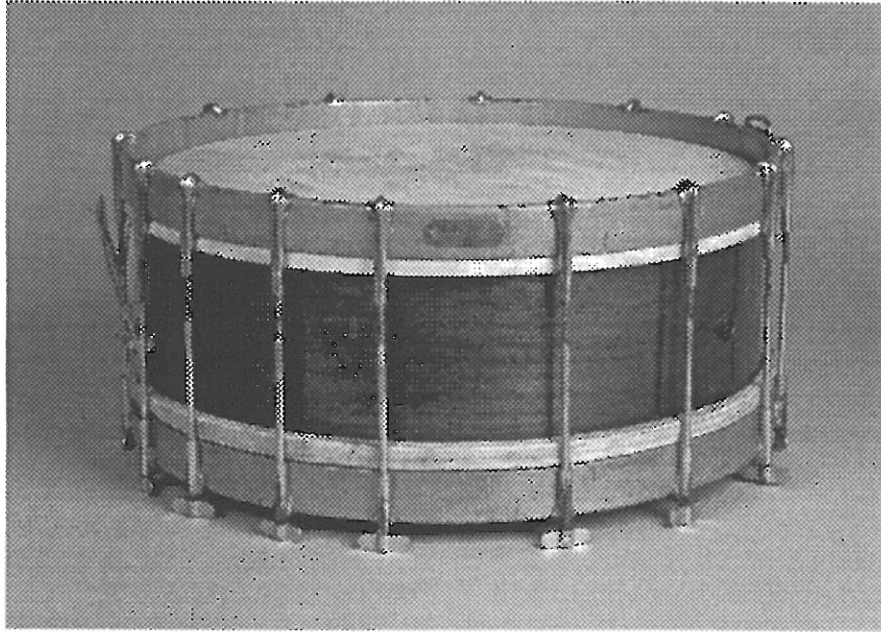


Branded inside drum.

- Catalog Number:** NMM 804.
- Date:** About 1915.
- Maker:** Leedy Manufacturing Company.
- Location:** Indianapolis.
- Label:** A brass, oval badge affixed to the batter rim reads: *Leedy Mfg. CO. / INDIANAPOLIS, IND.*
- Additional Markings:** Branded inside the shell (see also NMM 2968) is the following: *MADE BY LEEDY MFG CO INDP LS IND.*
- Shell Material:** Walnut.
- Dimensions:** 187 mm (7-3/8 inches) high by 422 mm (16-5/8 inches) in diameter.
- Other:** Leedy took great pride that their drums were made from a single piece of wood and did not have a veneer.
- Tension:** Single-tension, with fourteen thumb-rod screws that protrude below the snare head rim, with which to adjust the tension.
- Rims:** Maple rims.
- Strainer:** Strainer not original. Originally, strainer would have been a Leedy Utility strainer (patented in 1911), Leedy's first throw-off strainer.
- Other:** Screwed into the batter rim above the strainer is a hook, consisting of a flat piece of metal with a hole in it, that

protrudes above the batter head rim. This hook was for attaching a sling. The drum is discussed in Chapter 4.

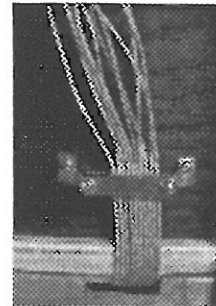
Source: Arne B. Larson Collection, 1979.



NMM 804.



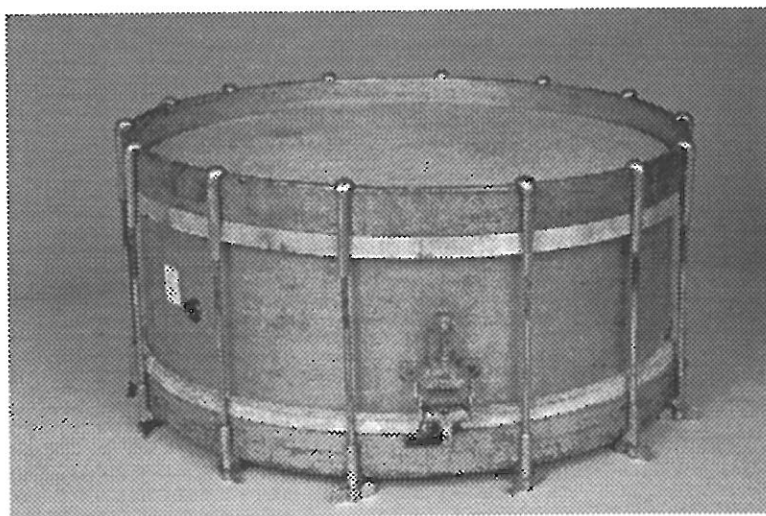
Badge.



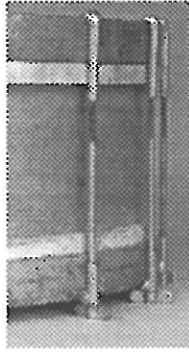
Butt plate.

Catalog Number: NMM 2968.
Date: About 1915.
Maker: Leedy Manufacturing Company.
Location: Indianapolis.

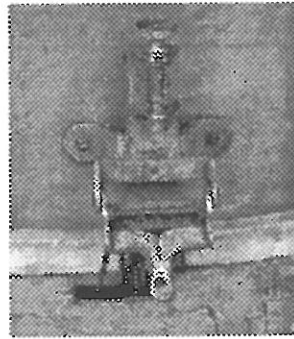
- Label:** There is an obvious mark from where there was once a brass badge on the batter head rim. The drum shell is made of maple, and branded inside the shell (see also NMM 804) is the following: *MADE BY LEEDY MFG CO INDPLS IND.*
- Model:** Leedy Band Drum No. 178 B; appears in the 1916 catalog.
- Additional Markings:** Stamped inside the shell are three small circles, which form a triangle. Inside the triangle is the number 5433. Handwritten inside the shell is the number 6416.
- Shell Material:** Maple with maple veneer.
- Dimensions:** 198 mm (7-3/4 inches) high by 420 mm (16-1/2 inches) in diameter.
- Tension:** Single-tension, with fourteen thumb-rod screws that protrude below the snare head rim, with which to adjust the tension.
- Rims:** Maple.
- Strainer:** Utility model, stamped: *LEEDY MFG CO. / PAT DEC 12 11.*
- Source:** Arne B. Larson Collection, 1979.



NMM 2968.



Lug.

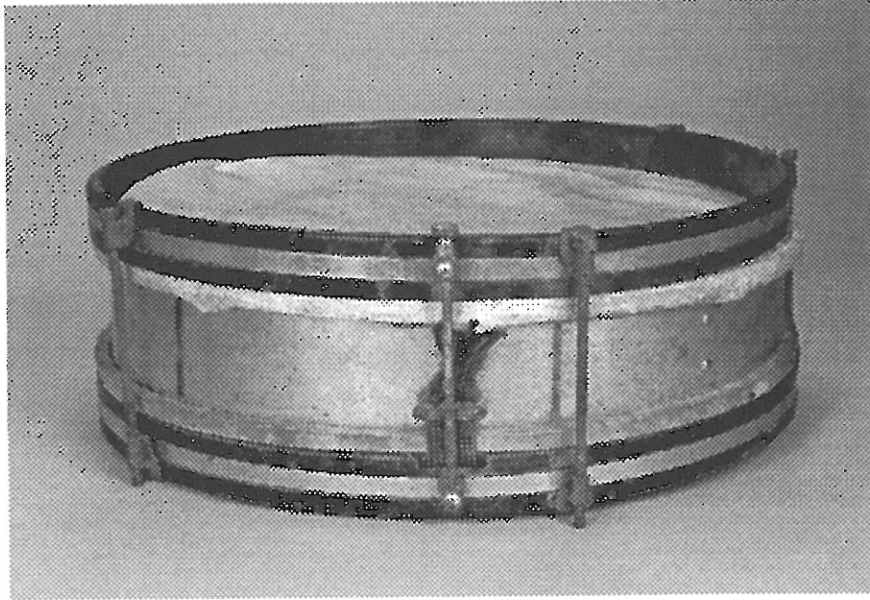


Strainer.

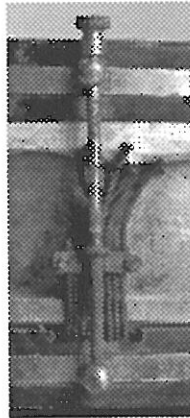


Butt plate.

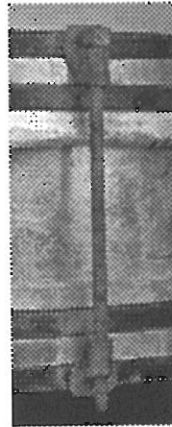
- Catalog Number:** NMM 2976.
- Date:** About 1915.
- Maker:** Lyon & Healy.
- Location:** Chicago.
- Label:** Paper label, once affixed inside drum, now preserved in instrument's file: *Lyon & Healy / Factories, Healy Station / Warerooms, Wabash Ave. and Adams St. / CHICAGO.*
- Shell Material:** Nickel-plated brass. Held together by three rivets.
- Dimensions:** 142 mm (5-1/2 inches) high by 401 mm (15-3/4 inches) in diameter.
- Tension:** Single tension; only four, square-top, single-clasp lugs remain.
- Rims:** Maple, with 1/2-inch decorative nickel-plated brass bands inlaid around the center.
- Strainer:** Military style snare adjuster mounted in posts on both rims. Positioned vertically, parallel to the shell.
- Source:** Arne B. Larson Collection, 1979.



NMM 2976.



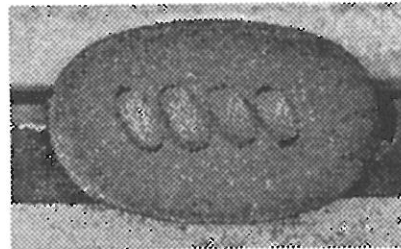
Strainer.



Lugs.



Rivets inside shell.



Leather strap opposite strainer.

Catalog Number: NMM 5495.

Date: Before 1920.

Maker: Ludwig & Ludwig.

Location: Chicago.

Label: Stamped on batter-head rim: *LUDWIG & LUDWIG / CHICAGO, U.S.A.*

Additional Markings: Label on inside and outside of drum: *Phone 163-J Drummers Supplies / JOHN P SAMPSON / DRUM SHOP / LEEDY – SLINGERLAND – LUDWIG / 129 – ½ So. Main Sioux Falls, S.D.*

Stamped on batter head: *SAINT MARY ACADEMY / Dell Rapids, So. Dak.*

Model: Wood Shell Separate Tension model No. 26.

Shell Material: Walnut.

Dimensions: 165 mm (6-1/2 inches) high by 381 mm (15 inches).

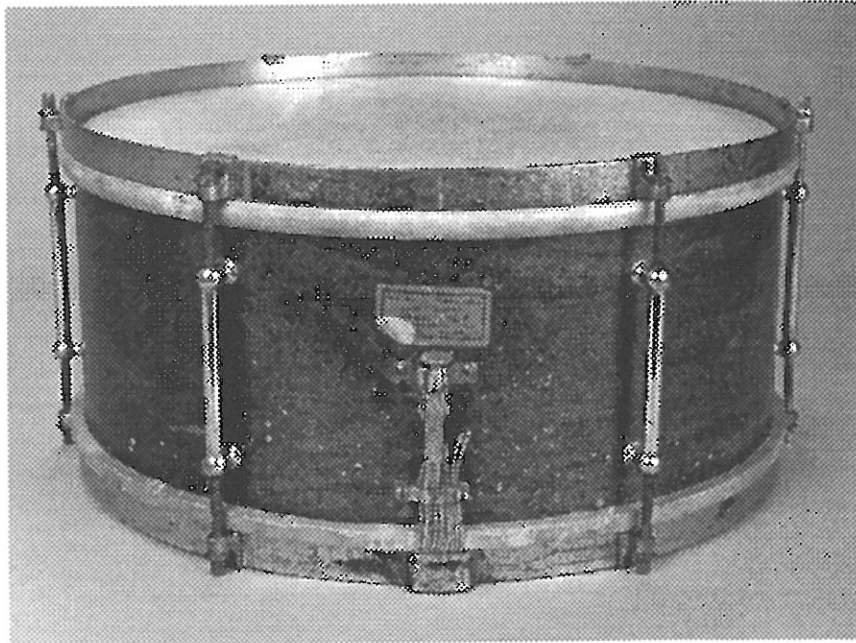
Tension: Separate tension. Six tube lugs with hooks.

Rims: Flat nickel-plated stainless steel.

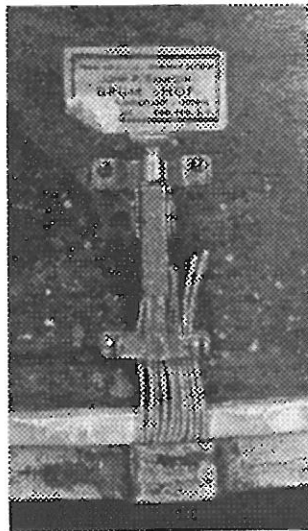
Strainer: Combination strainer, patented October 29, 1912. Ludwig & Ludwig discontinued this strainer when they patented the Pioneer strainer in 1920.

Other: There is a strap hooked on to the lugs so that this drum can be used for marching, but this is not a parade style drum.

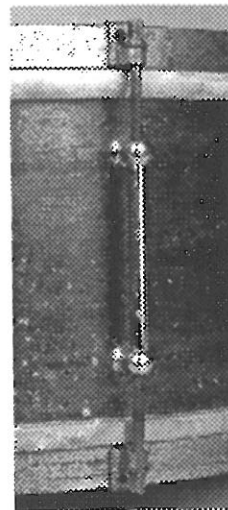
Source: Gift of Eric LeVan, Sioux Falls, South Dakota, 1993.



NMM 5495.



Strainer and drum shop label.



Lug.



Stamp on batter-head rim.

Catalog Number: NMM 965.

Date: Before 1920.

Maker: Ludwig & Ludwig.

Location: Chicago.

Label: Stamped on batter-head rim: *LUDWIG & LUDWIG / CHICAGO*.

Model: All-Metal Separate Tension Concert Dance model No. 6.

Shell Material: Two-piece, nickel-plated brass shell with center bead.

Dimensions: 102 mm (4 inches) high (without rims) by 381 mm (15 inches).

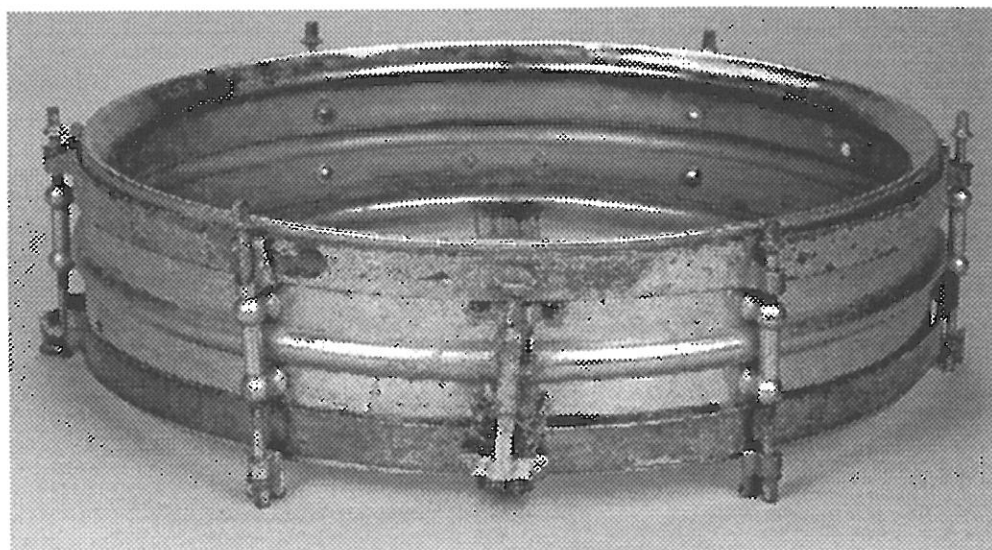
Tension: Separate tension. Six tube lugs with hooks.

Rims: Flat nickel-plated stainless steel.

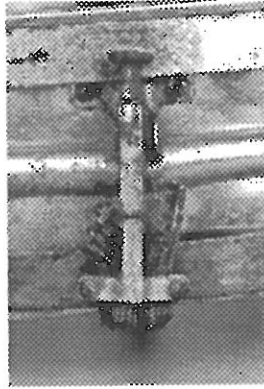
Strainer: Combination strainer, patented October 29, 1912. Discontinued when Ludwig & Ludwig patented the Pioneer strainer in 1920.

Other: The shell and rims are rusted, and both heads are missing.

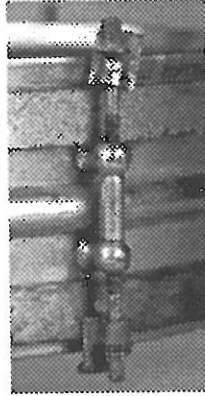
Source: Arne B. Larson Collection, 1979.



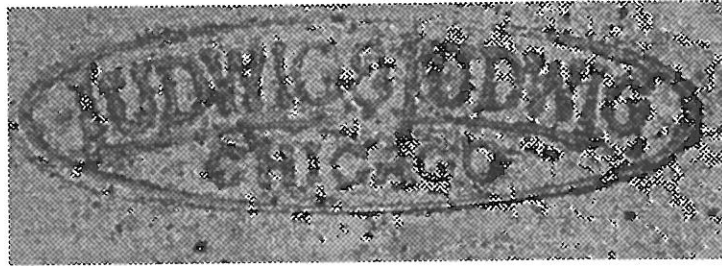
NMM 965.



Strainer.



Lug.



Stamp on batter head rim.

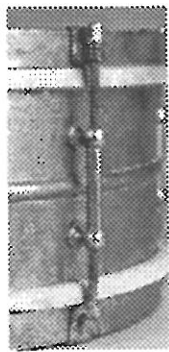
- Catalog Number:** NMM 227.
- Date:** About 1920.
- Maker:** Leedy Manufacturing Company.
- Location:** Indianapolis, Indiana.
- Label:** Stamped on batter-head rim: *LEEDY / UTILITY MODEL.*
- Model:** Utility.
- Shell Material:** One-piece, stainless-steel shell with center bead.
- Dimensions:** 152 mm (6 inches) high by 368 mm (14-1/2 inches).
- Tension:** Separate tension, six tube lugs with clips.
- Rims:** Flat steel hoops.
- Strainer:** Utility model strainer, patented December 12, 1911.

Source:

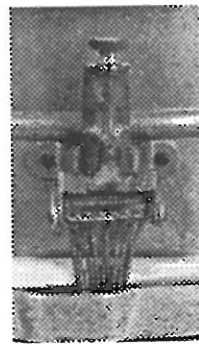
Arne B. Larson Collection, 1979.



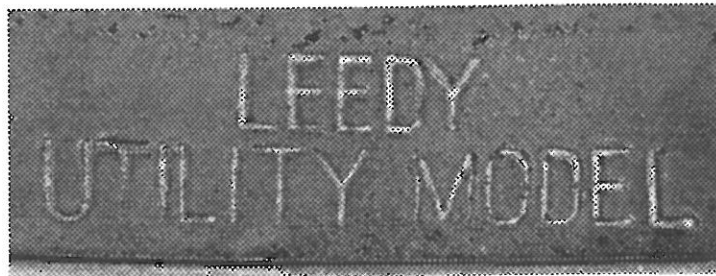
NMM 227



Lug.



Strainer.



Stamp on batter-head rim.

Catalog Number: NMM 2970.

Date: About 1920.

Maker: C. G. Conn Ltd.

Location: Elkhart.

Label: Stamped on oval, tin badge: *MADE BY / C.G. Conn LTD. / ELKHART IND. / U.S.A. / 12334.*

Shell Material: Mahogany.

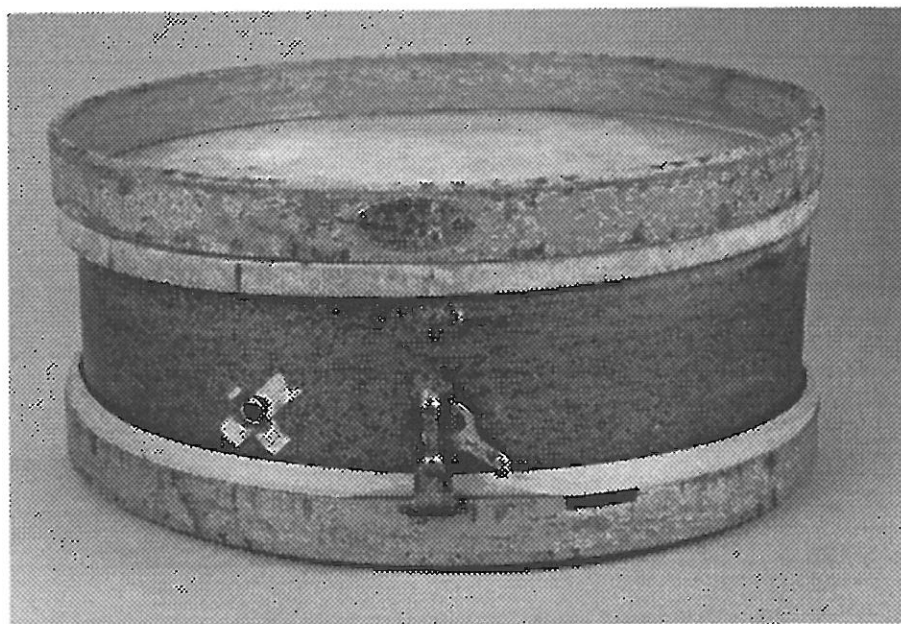
Dimensions: 131 mm (5-1/4 inches) high (without rims) by 371 mm (14-1/2 inches) in diameter.

Tension: Single tension. The rods have a square nut on the batter head rim. There are seven rods with the drum, but none of them are currently on the drum.

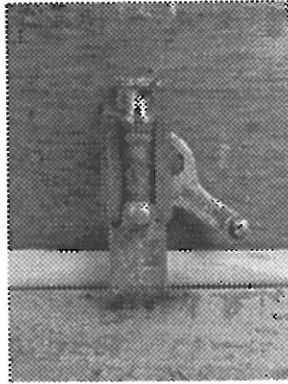
Rims: Maple.

Strainer: Throw-off mechanism, mounted vertically, parallel to the shell. This strainer is similar to the Ludwig & Ludwig *Pioneer* strainer, introduced in 1919.

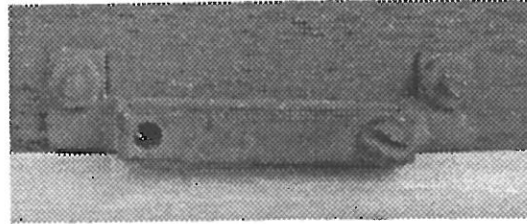
Source: Arne B. Larson Collection, 1979.



NMM 2970.



Strainer.



Butt plate.



Badge.

Catalog Number: NMM 2498.

Date: About 1920.

Maker: C. G. Conn Ltd.

Location: Elkhart.

Label: Stamped on tin badge: *C. G. CONN Ltd. / BAND / INSTRUMENTS / WORLD'S LARGEST MANUFACTURERS / ELKHART, INDIANA., U.S.A.*

Shell Material: Maple.

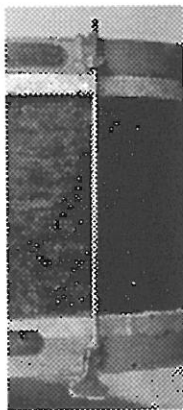
Dimensions: 225 mm (8-7/8 inches) high by 347 mm (13-5/8 inches) in diameter.

Tension: Single-tension, nine single-tension thumb-rod screws.

- Rims:** Maple.
- Strainer:** Military-style snare adjuster, positioned vertically, parallel to the shell, with a knob that tightens or loosens a long screw that adjusts the snares.
- Other:** There is a metal hoop for the attachment of a sling. The instrument may have been intended as a child's instrument or for use by a student band, as the size is consistent with these types of instruments.
- Source:** Arne B. Larson Collection, 1979.



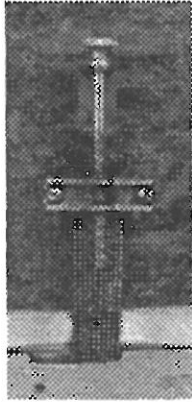
NMM 2498.



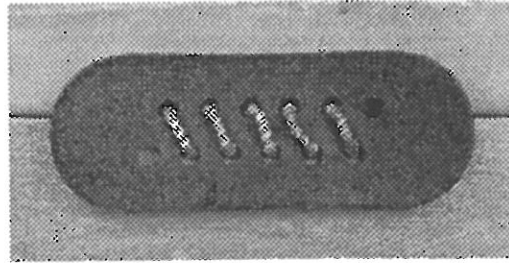
Lug.



Badge.



Strainer.



Leather strap.

- Catalog Number:** NMM 10,145.
- Date:** About 1920.
- Maker:** Ludwig & Ludwig.
- Location:** Chicago.
- Label:** Stamped on washers around lug support posts: *CHICAGO / LUDWIG & LUDWIG*.
- Additional Markings:** Mounted inside the shell is a paper label advertisement for the Ludwig All-Metal Separate tension drum (which this instrument is not).
- Shell Material:** Mahogany.
- Dimensions:** 310 mm (12-1/4 inches) high by 435 mm (17-1/4 inches).
- Tension:** Combination rope and rod tension. There are six thumb-rod screws on the snare head rim that control the single tension for the entire drum. Each of these thumb-rod screws is mounted in a post at the middle of the shell. The rope passes over a hook at the end of each rod. When a thumb-rod is adjusted, it tightens or loosens the rope. In between each of these thumb-rod screws is a roller hook, and there are twelve roller hooks on the batter head over which the rope passes.
- Rims:** Maple rims with roller hooks, six on the snare head rim and twelve on the batter head rim, through which the rope passes.
- Strainer:** Military strainer.

Other:

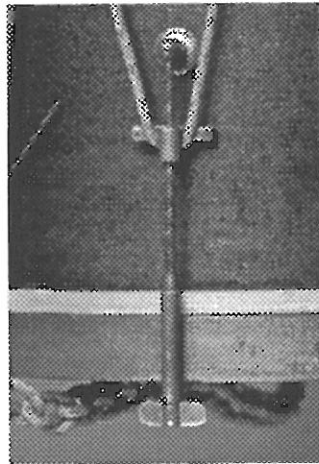
This drum was produced for the U. S. Army during WW I. Due to war time restrictions on metal this design was utilized.²⁶

Source:

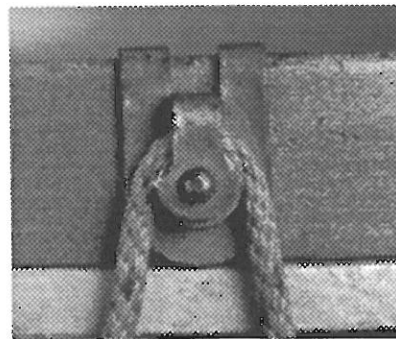
William F. Ludwig II Collection, 2002.



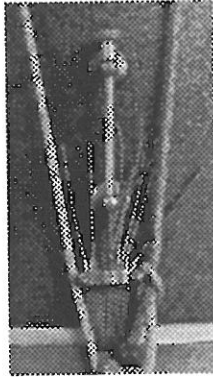
NMM 10,145.



Rod.

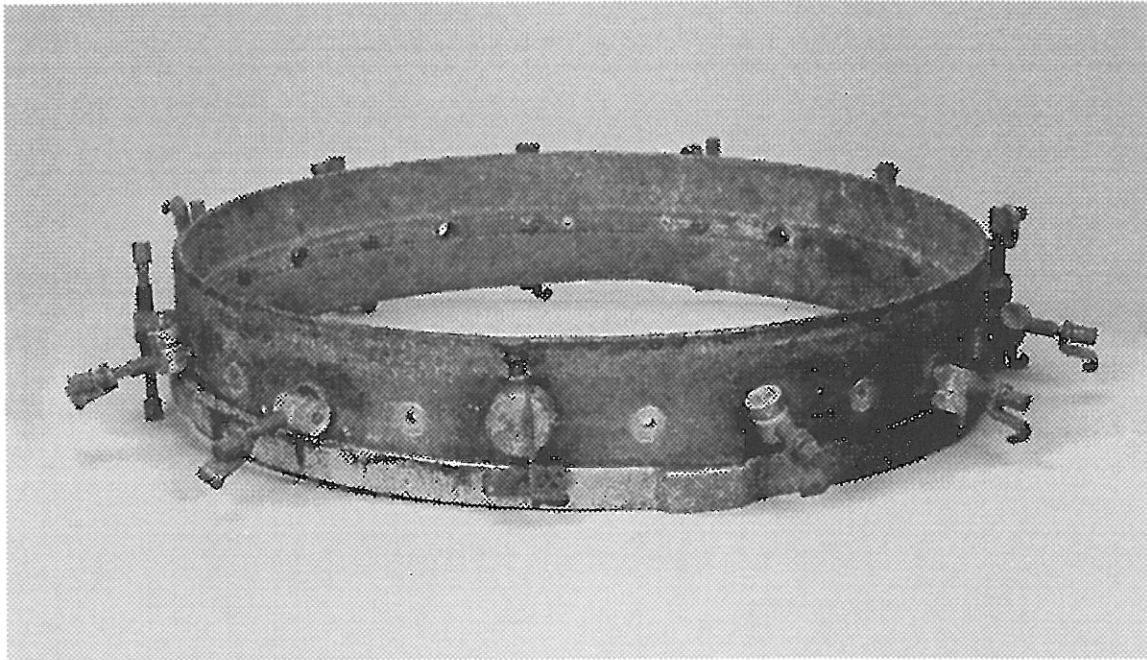


Rope Hook.

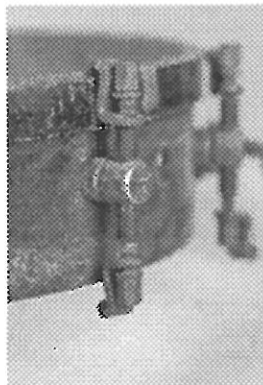


Strainer.

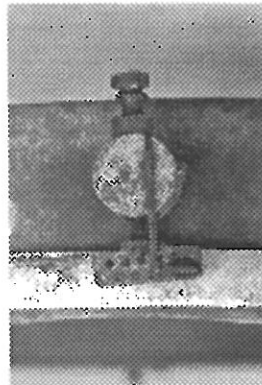
- Catalog Number:** NMM 3015.
- Date:** About 1920.
- Maker:** Barry Drum Manufacturing Company.
- Location:** Philadelphia.
- Label:** Stamped on Strainer: BARRY / PAT APD.
- Shell Material:** Aluminum.
- Dimensions:** 62 mm (2-1/2 in.) high by 325 mm (12-3/4 in.) in diameter.
- Other:** There are nine vent holes, located between the lugs, except where the badge, strainer, and butt plate are located.
- Tension:** Separate tension with twelve tube lugs and clips. Each lug has a large cylindrical center post, and the rods are hexagonal shaped.
- Rims:** Flat aluminum.
- Strainer:** Throw-off strainer mounted vertically, parallel to the shell.
- Source:** Arne B. Larson Collection, 1979.



NMM 3015.



Lug.



Strainer.

Catalog Number: NMM 2977.
Date: Around 1920.
Maker: Lyon & Healy.
Location: Chicago.

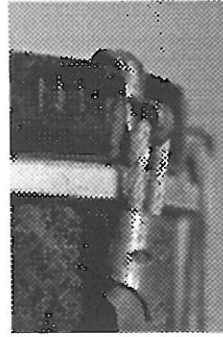
- Label:** Paper label inside drum: *Est. 1864 / Lyon & Healy / Factories: Healy Station / Warerooms: Wabash Ave. at Jackson / CHICAGO / L62305 3-20.*
- Additional Markings:** Painted in gold letters on shell: *Boy Scout*. Written in ink on the batter head: *Ellsworth Prather / Troop 2 / Brookings, S. Dak*. The numeral *4* is also written twice on the batter head. There is also some illegible handwriting on the snare head.
- Shell Material:** Maple ply shell with maple veneer.
- Dimensions:** 289 mm (11-3/8 inches) high by 346 mm (13-5/8 inches).
- Decoration:** Reddish or maroon colored varnish with much craquelure.
- Tension:** Rope-tension with seven leather tugs.
- Rims:** Maple rims, each with seven hooks through which the rope passes. Circular saw marks are visible on the top of the rims.
- Strainer:** Shell shaped snare adjuster.
- Other:** Identical drums are pictured in the 1925 J. W. Jenkins and Sons Music Company catalog. Lyon and Healy stopped manufacturing their own drums in 1915. This instrument would have only been distributed by the company.
- Source:** Arne B. Larson Collection, 1979.



NMM 2977.



Strainer.



Hook.



Shell decoration.

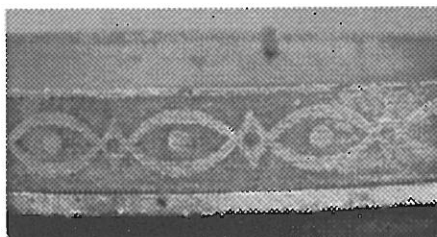
- Catalog Number:** NMM 3563.
- Date:** About 1920.
- Maker:** Unknown.
- Location:** U.S.A. or European import.
- Label:** None.
- Shell Material:** Steel, painted blue.
- Dimensions:** 235 mm (9-1/4 inches) high by 329 mm (13 inches).
- Tension:** Rope-tension with six leather tugs.
- Rims:** Possibly beech, with decorative scroll pattern machine-carved around the outside, each with six drilled holes through which the rope passes.
- Strainer:** None. Snares are tied around the flesh hoop.

Source:

Gift of Sue and Maurice Nieland, Sioux City, Iowa, 1985.



NMM 3563.



Rim.

Catalog Number: NMM 2979.

Date: About 1920.

Maker: Carl Fischer.

Location: New York.

Label: Square, white badge nailed to batter rim: *CARL FISCHER / COOPER SQUARE, NEW YORK. / BOSTON - PHILADELPHIA - CHICAGO.*

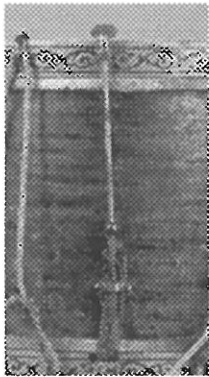
Other Markings: Handwritten inside shell: *10*. Handwritten on underside of batter head: *Put on 4/29/28 / By Aaron L. Roberts*

Model: Drum Corps Favorite Model No. 13.

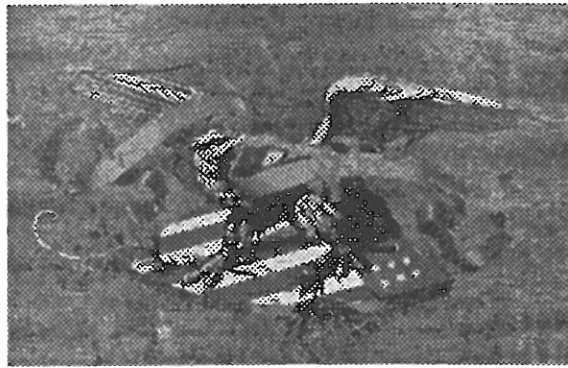
- Shell Material:** Mahogany.
- Dimensions:** 310 mm (12-1/4 inches) x 415 mm (16-5/8 inches).
- Decoration:** Eagle decal. Similar decals appear on drums in Carl Fischer catalogs; and on NMM 2876 (p. 129) and NMM 225 (p. 196).
- Tension:** Rope-tension with nine, leather tugs remaining (one missing). Whoever had the ropes off last put all the tugs, except for one, back on upside down.
- Rims:** Maple rims with scroll decoration painted in black, each with ten metal hooks through which the rope passes. The rim decoration can be seen on drums in Carl Fischer catalogs and can also be found on NMM 2876.
- Strainer:** Thumb-rod screw snare adjuster, positioned vertically, parallel to the shell. The rod is mounted to both the shell and batter-head rim and is quite long, extending above the rim.
- Source:** Arne B. Larson Collection, 1979.



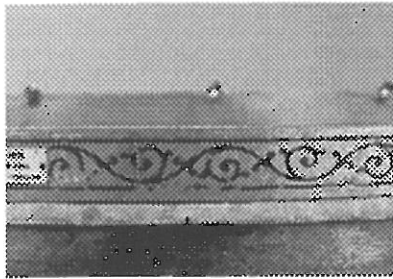
NMM 2979.



Strainer.



Eagle decal.



Rim decoration.



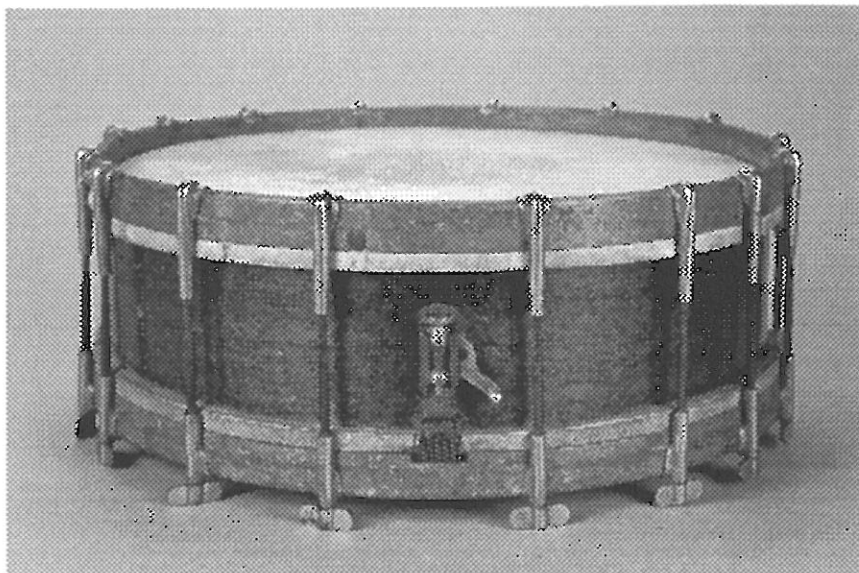
Badge.

- Catalog Number:** NMM 2997.
- Date:** About 1920.
- Maker:** Ludwig & Ludwig.
- Location:** Chicago.
- Label:** Oval, brass badge: *Ludwig / TRADE MARK / LUDWIG & LUDWIG / CHICAGO.*
- Additional Markings:** Small circles on each thumb-rod screw; stamped on strainer arm: *PAT. PEND.*
- Model:** Sixteen Thumb-Rod Orchestra model No. 40.
- Shell Material:** Mahogany.
- Dimensions:** 127 mm (5 inches) high by 381 mm (15 inches) in diameter.
- Tension:** Single tension with sixteen thumb-rod screw lugs.

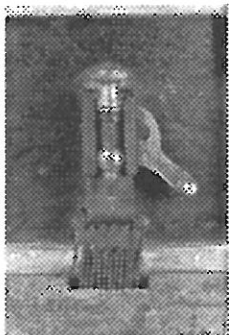
Rims: Maple.

Strainer: Pioneer model strainer, patented September 28, 1920.

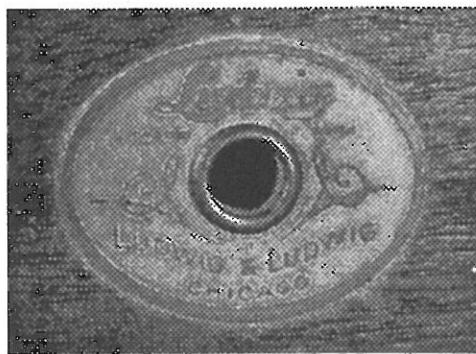
Source: Arne B. Larson Collection, 1979.



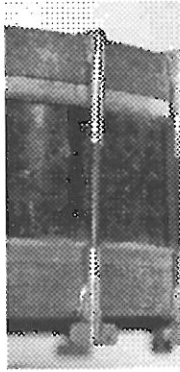
NMM 2997.



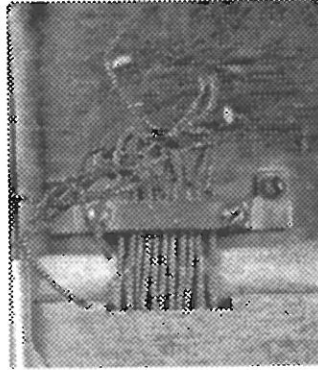
Strainer.



Badge.



Lug.



Butt plate.

Catalog Number: NMM 4198.

Date: About 1920.

Maker: Ludwig & Ludwig.

Location: Chicago.

Label: Oval, brass badge: *Ludwig / TRADE MARK / LUDWIG & LUDWIG / CHICAGO.*

Additional Markings: Stamped on strainer: *PAT. PEND.*

Model: Ludwig Thumb-Rod Drum model No. 66.

Shell Material: Walnut.

Dimensions: 127 mm (5 inches) high by 381 mm (15 inches) in diameter.

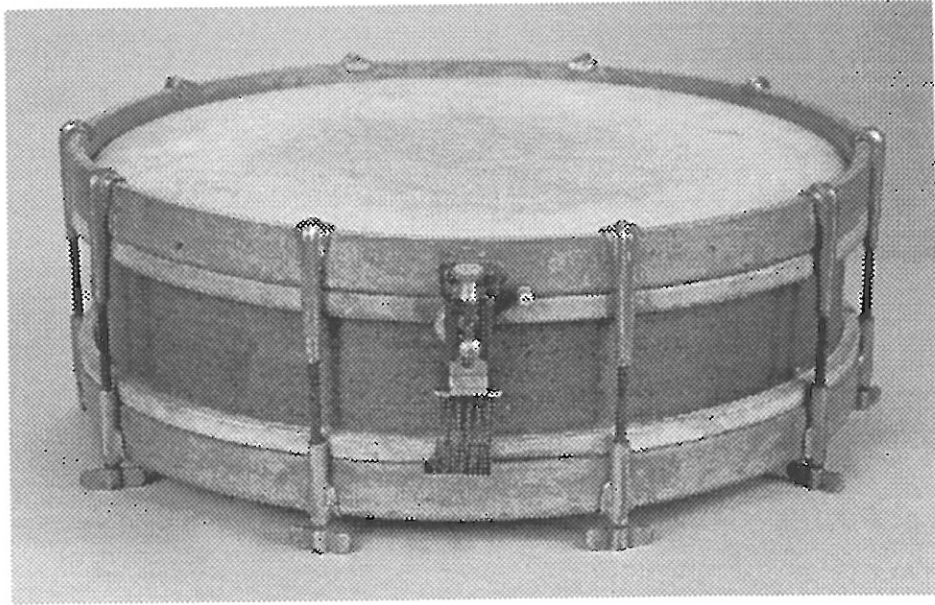
Tension: Single tension with ten thumb-rod screw lugs.

Rims: Maple.

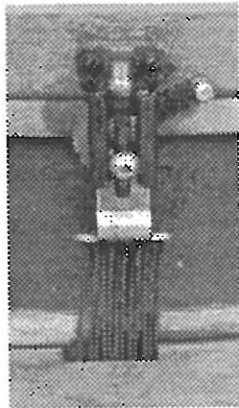
Strainer: Pioneer model strainer, patented September 28, 1920.

Other: Strainer arm is attached to the wrong side of the strainer, probably from a repair.

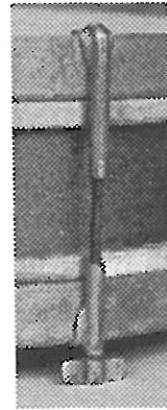
Source: Gift of Ruth Shipley, Council Bluffs, Iowa, 1987.



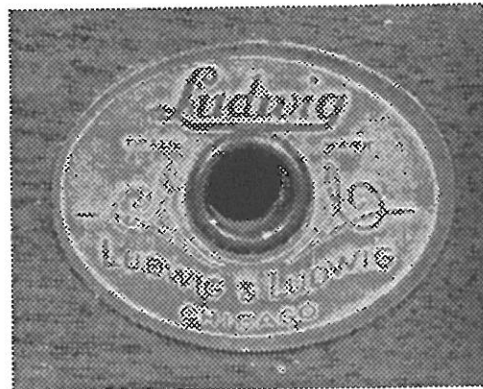
NMM 4198.



Strainer.



Lug.



Badge.

Catalog Number: NMM 2983.

Date: About 1920.

Maker: Ludwig & Ludwig.

Location: Chicago.

Label: Stamped on batter-head rim: *LUDWIG & LUDWIG / CHICAGO, U.S.A.*

Additional Markings: Stamped on strainer arm: *PAT. APPLIED FOR.*

Model: Band model No. 3.

Shell Material: Two-piece, nickel-plated brass shell with center bead.

Dimensions: 165 mm (6-1/2 inches) high by 381 mm (15 inches) in diameter.

Tension: Separate tension with six tube lugs and hooks.

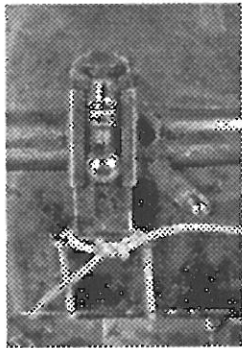
Rims: Flat stainless steel.

Strainer: Pioneer model, patented September 28, 1920.

Source: Arne B. Larson Collection, 1979.



NMM 2983.



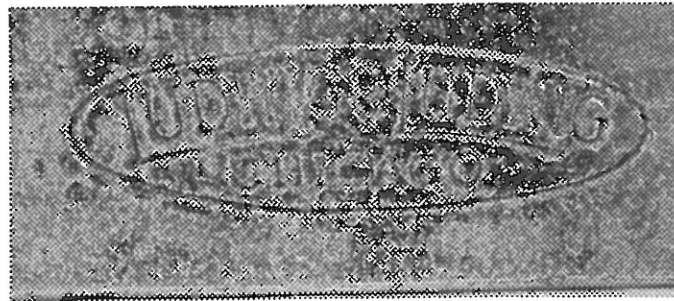
Strainer.



Butt plate.



Tube lug with clips.



Stamp on batter head.

Catalog Number: NMM 10,146.

Date: About 1920.

Maker: Ludwig & Ludwig.

Location: Chicago.

Label: Stamped below vent hole: *Ludwig*.

Shell Material: Nickel-plated brass with seam on the exterior.

Dimensions: 95 mm (3-3/4 inches) high by 305 mm (12 inches) in diameter.

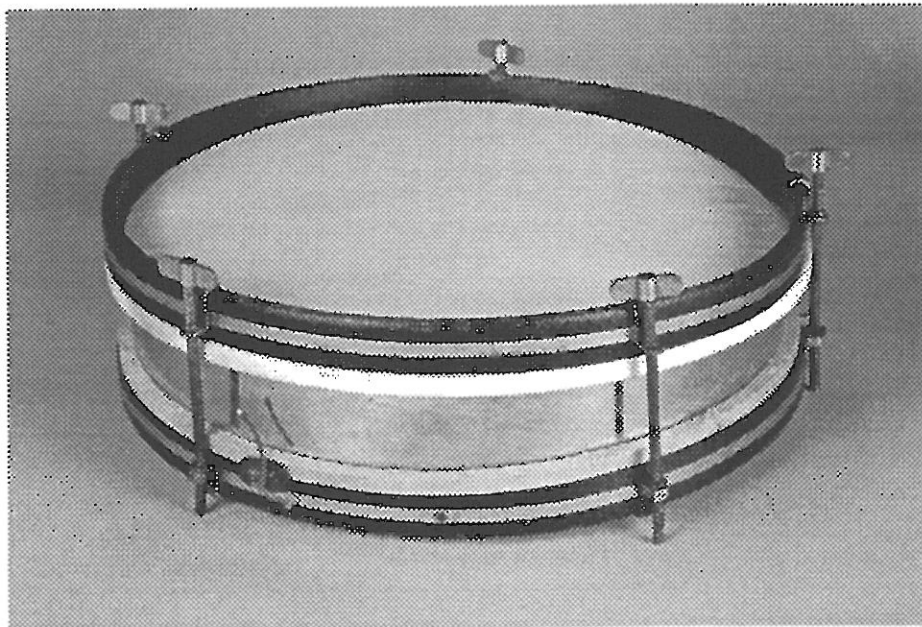
Tension: Single tension with five thumb-rod screws and hooks.

Rims: Wood rims, painted black with small metal bands that circle the center of the rims.

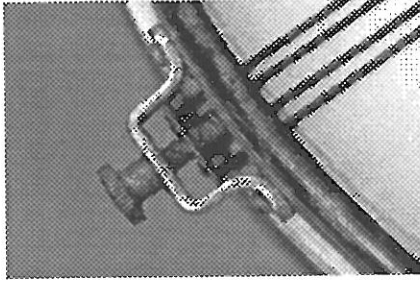
Strainer: Nickel-plated snare adjuster on snare head rim.

Other: This drum was the first instrument used by William F. Ludwig II, and there are photos in the Museum's William F. Ludwig II Archive that show him playing this drum.

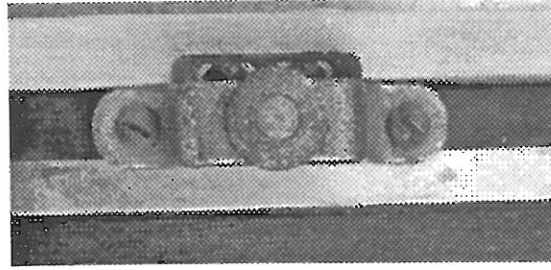
Source: William F. Ludwig II Collection, 2002.



NMM 10,146.

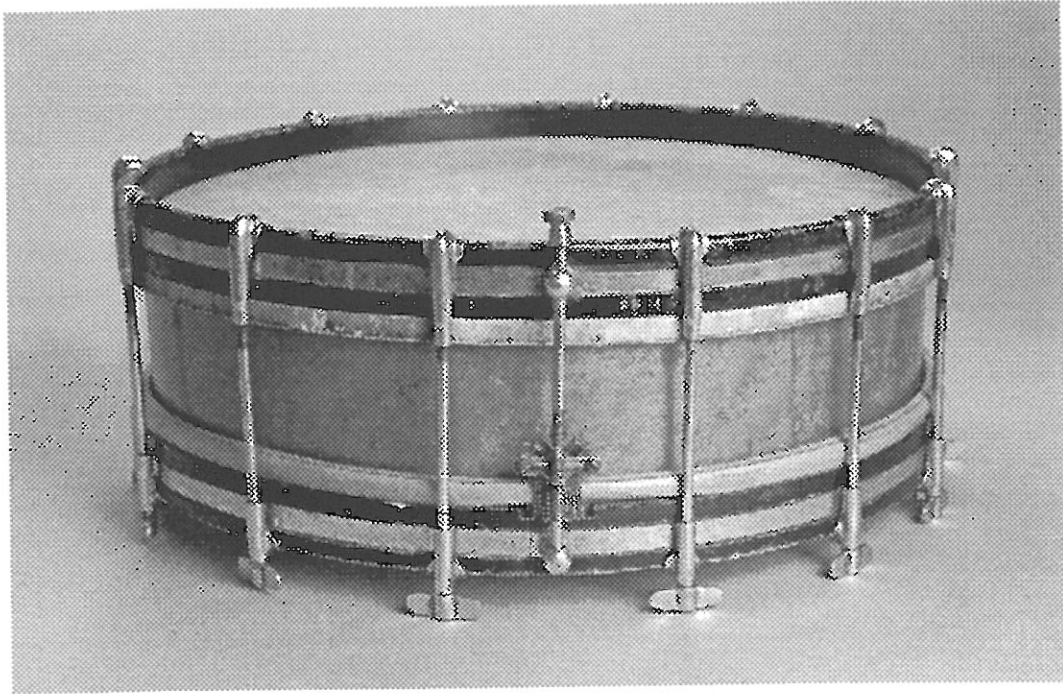


Strainer from bottom.

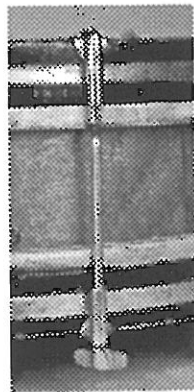


Strainer from front.

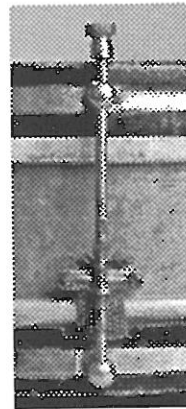
- Catalog Number:** NMM 2300.
- Date:** About 1920.
- Maker:** York.
- Location:** Grand Rapids, Michigan.
- Label:** Paper label inside shell: *YORK / GRAND RAPIDS / MICHIGAN, / U.S.A.*
- Shell Material:** Bird's eye maple.
- Dimensions:** 140 mm (5-1/2 inches) high by 399 mm (15-3/4 inches) in diameter.
- Tension:** Single tension with fourteen thumb-rod screws.
- Rims:** Maple with a decorative metal band around the center of the outside surface.
- Strainer:** Snare adjuster, positioned on the batter head rim.
- Source:** Arne B. Larson Collection, 1979.



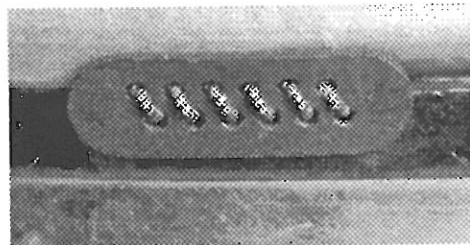
NMM 2300.



Rod.



Strainer.



Leather strap opposite strainer.

Catalog Number: NMM 3017.

Date: About 1920.

Maker: Converse.

Location: Winchendon, Massachusetts.

Label: Paper label attached to drum shell: *MARK OF QUALITY / Converse.*

Maker information: Converse drums were produced by Morton E. and later Atherton Converse through the early part of the twentieth century. Although little is know about their company, they did receive many patents. Morton was granted several patents between 1893 and 1906, and then the presumably younger Atherton received eight more, his last in 1917 (see Appendix).

Shell Material: Maple.

Dimensions: 158 mm (6-1/2 inches) high by 325 mm (12-3/4 inches) in diameter.

Tension: Rope-tension with eight leather tugs.

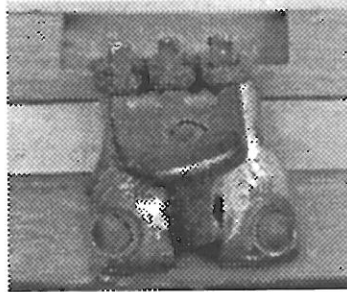
Rims: Maple rims, each with eight metal hooks through which the rope passes. Decorative nickel-plated band around each rim.

Strainer: Snare adjuster mounted horizontally, perpendicular to the snare rim. The snares loop over three prongs. When the screw is tightened against the rim, the snares are pulled tighter against the head.

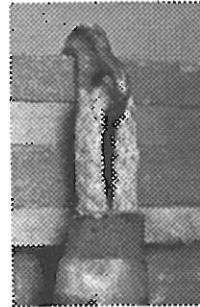
Source: Arne B. Larson Collection, 1979.



NMM 3017.



Strainer.



Rope Hook.



Label on shell.

Catalog Number: NMM 225.

Date: About 1920.

Maker: Probably distributed by Carl Fischer.

Location: New York.

Label: None.

Shell Material: Maple with Bird's eye maple veneer.

Dimensions: 150 mm (9-7/8 inches) high by 393 mm (15-1/2 inches) in diameter.

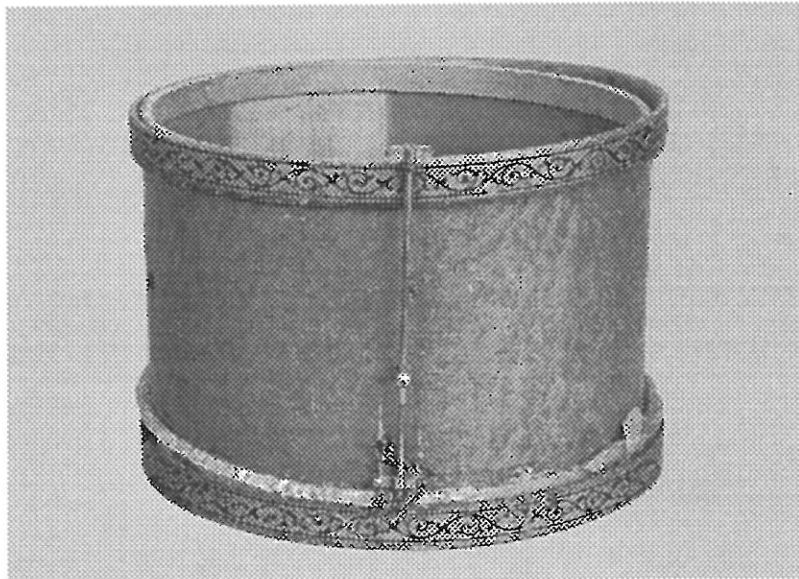
Tension: Probably was originally rope tension (no rope or rods survive).

Rims: Maple, black scroll painting.

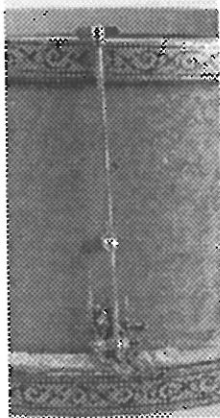
Strainer: Long thumb-rod screw strainer mounted to batter rim and shell.

Other: This drum has the same decoration as drum's advertised in the Carl Fischer catalogs from the 1910s and 1920s. It is also very similar to NMM 2979.

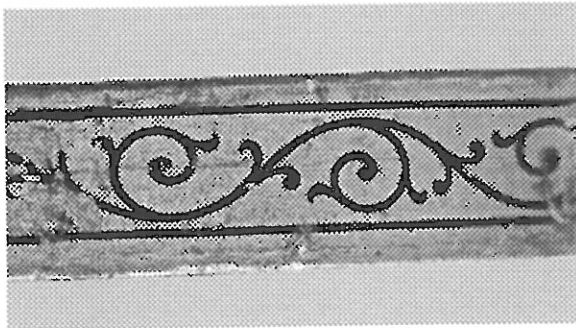
Source: Arne B. Larson Collection, 1979.



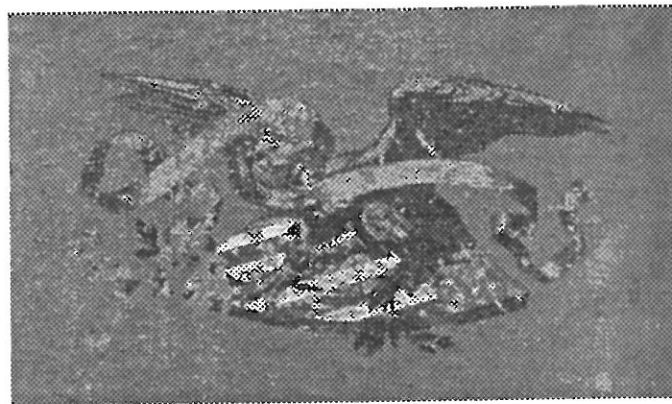
NMM 225.



Strainer.



Rim.



Eagle decal.

- Catalog Number:** NMM 2984.
- Date:** About 1920.
- Maker:** Distributed by J. W. Jenkins' Sons
- Location:** Kansas City, Missouri.
- Label:** Part of water-damaged label inside shell: *[THIS / WAS Built Especially for / JENKINS' SONS MUSIC COMPANY / Great Band Instrument House / Kansas City, Missouri.*
- Shell Material:** Nickel-plated brass.
- Dimensions:** 149 mm (5-7/8 inches) high by 381 mm (15 inches) in diameter.
- Tension:** Unknown, probably rope tension originally.

Rims:

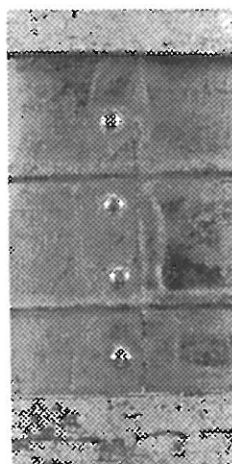
Wood, painted gray.



NMM 2984.



Label.



Rivets.

Notes

1. In a note by John Koster, NMM Curator, found in the file, "Four widely spaced illegible or erased letters follow '1804'. The abbreviation after the 'A' (i.e., 'Anno') is covered by a later small wooden reinforcement glued over a weak section of the shell."
2. Unless otherwise noted, all measurements include the rims.
3. *Zeughaus* is the German word for an armory, so this instrument presumably was used by the Swiss military.
4. Joseph Focht, Munich, e-mail to the author, 22 January 2003.
5. Peter and Ann Mactaggart, *Musical Instruments in the 1851 Exhibition* (Welwyn, Herts. Mac & Me, 1986), 85-86.
6. William Waterhouse, *The New Langwill Index: A Dictionary of Musical Wind-Instrument Makers and Inventors* (London: Tony Bingham, 1993), 309.
7. Sonor Museum, *The Unofficial Sonor Virtual Museum*, <http://www.sonormuseum.com>; accessed 16 June 2003.
8. Although this drum is beyond the date of this catalog, it is an example of the types of instruments being imported to the United States in the late nineteenth century (see Chapter Two).
9. Craig G. Caba, *United States Military Drums 1845-65: A Pictorial Survey*. (Harrisburg, Pennsylvania: Civil War Antiquities & Americana, 1977), 62. Although Caba calls this design unusual, there is a drum listed in his book with the same design.

10. Caba, 34.

11. A second drum by the White Brothers, Caba, 34, bears the inscription WINSTON / N.C. / DEC. 14 / 1862. This shows that other instruments made or sold by the White Brothers were being sold in the southern states.

12. Both date and maker information were provided by the donor, Mrs. Daisy Logeman, Sioux Falls.

13. Waterhouse, 104.

14. Caba, 67.

15. Gura, Phillip and James Bollman. *America's Instrument: The Banjo in the Nineteenth Century*. Chapel Hill: Chapel Hill Press, 1999, 64-65.

16. Ibid.

17. In a letter to the Museum, 19 June 1981, G. Craig Caba says that a thick and crude seam could indicate a date as early as the Revolutionary War, but thinks this drum dates from around 1830. The author of this text disagrees, as the size of the drum shell is inconsistent with drums of this earlier period, unless the shell has been cut down. This does not appear to be the case. Instead, the crude seam probably is evidence that this instrument was built by an amateur drum maker, like NMM 906.

18. Information provided to the author by Mark A. Elrod, Germantown, Maryland, in an e-mail dated 2 December 2002.

19. John Aldridge, *Guide to Vintage Drums* (Anaheim Hills, California: Centerstream Publishing, 1994) 158.

20. A more complete history of the firm can be found in *America's Instrument* by Philip Gura and James Bollman, pp. 230 and 231.
21. Ibid.
22. Schultz, W., inventor, *Drum*, U. S. patent number 793,399, 27 June 1905.
23. Schultz, W., inventor, *Drum*, U.S. patent number 804,347, 14 November 1905.
24. William F. Ludwig II, interview by author, Oak Brook, Illinois, 13 June 2002.
25. 1894 is the date Lyon and Healy moved to this address. P.J. Meahl, "The Great Lyon and Healy Building, Chicago" *The Music Trades* (Chicago) 6 September 1902, 18. Lyon and Healy sold their drum business in 1915. Rob Cook, *The Slingerland Book* (Alma, Michigan: Rebeats, 1996), 29.

**Index of Makers and Manufacturers Locations for the
Catalog of Snare and Side Drums
in the National Music Museum**

A. E., 115
 Baltimore, 114
 Barry Drum Manufacturing Company, 180
 Belgium, 94
 Bern, Switzerland, 84
 Boston, 110, 122, 140
 Boucher, 114
 Boulanger, Emile, 133, 151
 Brown, Eli, 104, 105
 Chicago, 124, 125, 127, 129, 131, 143, 150,
 154, 158, 159, 168, 170, 172, 178,
 181, 186, 188, 190, 192
 Colas, 89
 Conn, C. G., 137, 175, 176
 Connecticut, 104, 105
 Converse, 195
 Eisenbrandt, H. R., 113
 Elkhart, Indiana, 137, 175, 176
 Ent, William, 108
 Duplex Drum Company, 133, 151
 Fischer, Carl, 184, 197
 France, 89, 94, 98
 Grand Rapids, Michigan, 193
 Harmony Musical Instrument Company, 154
 Haynes, John C., 122
 Hoskins, Adelmour M, 161
 Indianapolis, 163, 165, 166, 173
 Iowa, 111
 Jenkins, J. W. & Sons, 147, 148, 151, 198
 Kaltenecker & Son, 87
 Kansas City, Missouri, 147, 148, 151, 198
 Leedy Manufacturing Company, 163, 165,
 166, 173
 Link, Johannes, 99, 102
 London, 91
 Ludwig & Ludwig, 158, 170, 172, 178, 186,
 188, 190, 192
 Lyon and Healy, 124, 125, 127, 129, 131, 143,
 150, 159, 168, 181
 Massachusetts, 194
 Minneapolis, 161
 Munich, 87
 New England, 104, 105, 110, 116, 122, 140,
 195
 New York, 184, 197
 Paris, 89
 Philadelphia, 114, 135, 155, 180
 Pennsylvania, 108, 114, 135, 155, 180
 Pepper, J. W., 135, 155
 Potter, Henry, 91
 St. Louis, 133, 151
 Soistmann, C & F, 114
 Sonor, 99, 102
 Sturdevant, 112
 Switzerland, 84, 86
 Thompson and Odell, 140
 Tompkins, W. S., 120
 Treat, J. B., 140
 Weissenfels an der Saale, Germany, 99, 102
 White Brothers, 110
 Winchendon, Massachusetts, 195
 Yonkers, New York, 120
 York, 193

Appendix

United States Snare Drums Patents 1850 - 1920

Patent Number	Date Issued	Title	Inventor	Location
19,602	03/19/1858	Construction of Military Drums	Charles M. Zimmerman	Philadelphia
37,570	02/02/1863	Improvement in Military Drums	John Dermond	Louisville, Kentucky
39,058	06/30/1863	Improvement in Drums	Johnson Mason	Louisville
150,814	05/12/1874	Improvement in Drums	Joseph Belknap	Adrian, Michigan
151,797	06/09/1874	Improvement in Drums	Thomas Rawson	Williamsburg, New York
223,586	01/13/1880	Drum	Augustus L. Fayaux	Philadelphia
241,195	05/10/1881	Hook Attachment to Drums	Edwin J. Cubley	Ravenswood, Illinois
254,143	02/28/1882	Drum	George S. Knapp	Chicago
256,520	04/18/1882	Drum-Strap	August Voege	Brooklyn
258,899	06/06/1882	Snare-Drum	Henry C. Dobson	New York
274,900	04/03/1883	Drum	Emile Boulanger	St. Louis
324,881	08/25/1885	Snare Drum	Rowland R. Perry	Peace Dale, Rhode Island
342,062	05/18/1886	Snare Drum	George W. Bemis	Worcester, Massachusetts
349,151	09/14/1886	Drum Snare Strainer	Augustus L. Fayaux	Philadelphia
350,870	10/12/1886	Drum Head Strainer	Edwin J. Cubley	Ravenswood, Illinois
353,204	11/23/1886	Drum Head Tightener	Charles G. Conn	Elkhart, Indiana
355,057	12/28/1886	Drum Tightener	Robert Buchanan	Sioux City, Iowa
365,817	07/05/1887	Drum	William R. Johnson	Waltham, Massachusetts
367,701	08/02/1887	Drum Tightener	Charles G. Conn	Elkhart
371,415	10/11/1887	Drum	Emile Boulanger	St. Louis
373,873	11/29/1887	Drum	Rudolph Wurlitzer	Cincinnati,

				Ohio
382,045	05/01/1888	Drum	Henry G. Lehnert	Philadelphia
382,124	05/01/1888	Hook for Drum Head Strainers	George Van Zant	Chicago
387,023	07/31/1888	Drum Head Strainer	George Van Zant	Chicago
388,527	08/28/1888	Snare Tightener	John H. Buckbee	New York
388,771	08/28/1888	Military Drum	Bernhard Fleck	Muhlhausen, Thuringia
388,806	08/28/1888	Drum	Edward Zoeller	Louisville
389,594	09/18/1888	Snare Drum	Harold C. Plowe	Peoria, Illinois
390,469	10/02/1888	Drum Tug	William F. Foley & Charles F. Wilbur	Brockton, Massachusetts & Birmingham, Connecticut
399,396	03/12/1889	Snare-Strainer for Drums	Ellwood E. Fry	Brooklyn
407,579	07/23/1889	Drum	Edwin J. Cubley	Ravenswood
416,327	12/03/1889	Drum	George B. Durkee, assignor to Lyon & Healy	Chicago
422,742	03/04/1890	Adjustable Drum-Clamp	Louis N. DeLonge	Kansas City, Missouri
423,060	03/11/1890	Drum	Joseph D. Legault, assignor to Elijah R. Bond	Portland, Maine
436,590	09/16/1890	Drum-Snare	Henry Theophel	Akron, Ohio
438,670	10/21/1890	Drum	Manson Woodman	Boston, Massachusetts
440,192	11/11/1890	Drum	George Petter, Jr.	Paducah, Kentucky
478,378	07/05/1892	Drum	Adolph G. Soistmann & J. W. Pepper	Philadelphia
478,611	07/12/1890	Drum	John Knittel, assignor to George T. Kollas	St. Louis
480,063	08/02/1892	Waterproof Woven Snare String for Drums	Emile Boulanger	St. Louis
480,064	08/02/1892	Device for Adjusting Drum Snares	Emile Boulanger	St. Louis
504,910	09/12/1893	Drum	Samuel E. Cox	Cleveland
511,126	12/19/189	Drum	Morton E Converse	Winchendon, Massachusetts
519,914	05/15/1894	Drum	Christian Koeth	Suhl, Germany

521,379	06/12/1894	Snare Device for Drums	Edwin A. Lougee	Haverhill, Massachusetts
544,125	08/06/1895	Device for Securing Drum or Similar Heads	Isaac Hudson Sapp	Bucyrus, Ohio
570,693	11/03/1895	Drum	George W. Bemis	Worcester
573,320	12/15/1896	Drum	Emile Boulanger	St. Louis
575,098	01/12/1896	Drum	George W. Bemis	Worcester
578,198	03/02/1897	Drum	Emile Boulanger	St. Louis
583,372	05/25/1897	Drum Tightener	Charles T. Henderson	Dunkirk, Ohio
594,691	11/30/1897	Drum	Charles T. Henderson	Dunkirk
609,068	08/16/1898	Drum	Edward P. Zeidler	Cleveland
614,694	11/22/1898	Drum	Emile Boulanger	St. Louis
627,766	06/27/1899	Drum	George Wilken	New York
624,192	10/17/1899	Musical Instrument	Isaac H. Saap, assignor to William T. Stuart	Papeiti, Tahiti and Oakland, California
635,856	10/31/1899	Tightening Device for Drums	Judson N. W. Ingalsbe, assignor to Charles Green	Onage, Kansas and Wheaton, Kansas
641,901	01/23/1900	Drum	Adolph G. Soistmann	Philadelphia
663,853	12/18/1900	Tone Sharpener for Drums	Emile Boulanger	St. Louis
663,854	12/18/1900	Combined Orchestra and Band Drum	Emile Boulanger	St. Louis
663,855	12/18/1900	Duplex Tightening Drum Rod	Emile Boulanger	St. Louis
673,633	05/07/1901	Drum	Emile Boulanger	St. Louis
674,550	05/21/1901	Drum	Edward P. Zeidler	Cleveland
725,842	04/21/1903	Drum	Johan Hennl, assignor to the Osmanek Co.	Schönbach, Austria-Hungary
729,936	06/02/1903	Drumhead	William H. Heybeck, assignor to Frank B. Dawson and J. L. B. Dawson	Pittsburgh, McKeesport, and Beaverfalls, Pennsylvania
730,008	06/02/1903	Drum Tug	Wallace R. Dunbar	Everett, Massachusetts
755,610	03/29/1904	Snare Drum	Harry A. Bower	Boston
756,730	04/05/1904	Snare Tightening Device for Drums	Charles A. Stromberg	Chelsea, Massachusetts
756,930	04/12/1904	Drum Snare	Emile Boulanger	St. Louis

		Brace		
769,527	09/06/1904	Drum	John Bahr	Philadelphia
769,528	09/06/1904	Drum	John Bahr	Philadelphia
772,743	10/18/1904	Means for Securing Heads of Drums, Tambourines, Rackets, or the like in position	Hermann Oschatz	Floergehofen, Erfut, Germany
775,711	11/22/1904	Drum	Eugene T. Turney, assignor to the Kohler & Chase Co.	San Rafael, California and San Francisco, California
775,712	11/22/1904	Snare Strainer for Drums	Eugene T. Turney, assignor to the Kohler & Chase Co.	San Rafael, California and San Francisco, California
793,399	06/27/1905	Drum	William J. F. Schultz	Chicago
794,658	07/11/1905	Drum	Emile Boulanger	St. Louis
795,034	07/18/1905	Drum	George Harris	San Francisco, California
803,384	10/31/1905	Brace for Drum Cords	Dexter M. Wright	San Francisco, California
804,347	11/14/1905	Drum	William J. F. Schultz	Chicago
816,754	04/03/1906	Straining Hook for Musical Instruments	Adolph G. Soistmann	Philadelphia
830,952	09/11/1906	Drum	Edward P. Zoeller	Louisville
832,958	10/09/1906	Drum	Atherton D. Converse	Winchendon
834,865	10/30/1906	Drum	Peter Berlinghaff	New York
850,306	04/16/1907	Drum	Ulysses G. Leedy and Charles B. Wanamaker, assignors to Leedy Manufacturing Co.	Indianapolis, Indiana
867,675	10/08/1907	Drumhead	Isaac H. Sapp	Oakland, California
872,476	12/03/1907	Drum-snare	Henry Theophel	Detroit
877,830	01/28/1908	Drum	Atherton D. Converse	Winchendon
889,053	05/26/1908	Snare drum Muffler	George Smith	Council Bluffs, Iowa
889,331	06/02/1908	Snare drum	Valentine Platz, Jr.	Toledo, Ohio
889,702	06/02/1908	Attachment for Drums	Albert C. Ludington	Ishpeming, Michigan

889,762	06/02/1908	Drum	Atherton D. Converse	Winchendon
891,146	06/16/1908	Drum	Atherton D. Converse	Winchendon
892,885	07/07/1908	Skin Substitute for Heads of Drums and the Like	Christian Poland	Erfurt, Germany
899,450	09/22/1908	Snare for Drums or other Musical Instruments	Theodor Hemberger	St. Louis
899,488	09/22/1908	Musical Drum	Theodor Hemberger	St. Louis
907,901	12/29/1908	Muffler for Drums	John T. Shawan, assignor to Rudolph Wurlitzer	Cincinnati
911,605	02/09/1909	Snare Strainer and Muffler for Drums	William F. McIntosh	Boston
911,890	02/09/1909	Snare Strainer for Drums	John E. Lynehan	Newark, New Jersey
928,741	07/20/1909	Drum	Atherton D. Converse	Winchendon
948,195	02/01/1910	Snare Drum Muffler	Moritz Waechtler	St. Louis
955,736	04/19/10	Tightener for Drumheads	Edgar M. Yates	Norman, Oklahoma
966,477	08/09/1910	Drumhead Tightener	Isaac H. Sapp	Cheyenne, Wyoming
967,726	08/16/1910	Drum Tightener	Harry H. Carney	Portland, Oregon
973,661	10/25/1910	Drumhead Tightener	Frank Holton, assignor to Frank Holton and Co.	Chicago
974,647	11/01/1910	Drum	George W. Du Lany	Omaha, Nebraska
1,009,467	11/21/1911	Drum	Willard G. Bryant	Detroit, Michigan
1,011,533	12/12/11	Snare Strainer	Charles B. Wanamaker, assignor to Leedy Manufacturing Co.	Indianapolis
1,025,146	05/07/1912	Snare Strainer and Muffler for Snare Drums	John E. Lynehan	New York
1,031,032	07/02/1912	Drum	Charles B. Wanamaker, assignor to Leedy Manufacturing Co.	Indianapolis

1,032,508	07/16/1912	Snare Drum	Isaac H. Sapp	Cheyenne
1,034,155	07/30/1912	Cord Tightening Device	Adolph G. Soistmann	Camden, New Jersey
1,039,834	10/01/1912	Straining Hook	Adolph G. Soistmann	Camden
1,042,806	10/29/1912	Snare Strainer and Muffler	William F. Ludwig	Chicago
1,055,689	03/11/1913	Snare Drum	Frederick W. Wood, assignor to the Berry-Wood Piano Player Co.	Kansas City, Missouri
1,077,247	11/04/1913	Differential Adjusting rod for Drums	Adelmour M. Hoskins	Minneapolis
1,090,426	03/17/14	Drum	Calvin W. Thomas, assignor to Leslie D. Short	Peoria
1,091,433	03/24/1914	Snare Drum Damper	Robert Hope-Jones, assignor to the Rudolph Wurlitzer Manufacturing Co.	North Tonawanda, New York
1,094,029	04/21/1914	Cord Tightening Device	Adolph G. Soistmann	Camden
1,104,373	07/21/1914	Combined Snare Strainer and Muffler	Julius A. Meyer, assignor to the Duplex Manufacturing Co.	St. Louis
1,121,909	12/22/1914	Drum	Harry D. Elkins	Marion, Indiana
1,127,589	02/09/1915	Drum	George M. Carnes	Rochester, New York
1,142,843	06/15/1915	Snare Drum	Alfred A. Rose, assignor to the Rudolph Wurlitzer Manufacturing Co.	Bellevue, Kentucky and North Tonawanda, New York
1,144,452	06/29/1915	Snare Drum	Charles B. Wanamaker, assignor to Leedy Manufacturing Co.	Indianapolis
1,165,666	12/28/1915	Means for Tightening the Cords Upon Drums	Chester S. Gurney	Chicago
1,204,182	11/07/1916	Drum	Fred L. O'Connor	Dorchester, Massachusetts
1,207,825	12/12/1916	Snare for Drums	Moulton W. Wheeler	San Diego,

				California
1,221,141	04/03/1917	Method of Making Heads for Drums and Other Musical Instruments	Atherton D. Converse	Winchendon
1,227,496	05/22/1917	Drum Snare	Isaac H. Sapp	Cheyenne
1,232,823	07/10/1917	Drum	George A. Manning, assignor to C. G. Conn	Elkhart
1,236,667	08/14/1917	Snare Attachment for Drums	Harry A. Bower	Boston
1,252,878	01/08/1918	Drum	Harry A. Bower	Boston
1,254,756	01/29/1918	Drum	Tom Wilson, assignor to the Wilson-Jacobs Drum Co.	Chicago
1,254,757	01/29/1918	Drum	Tom Wilson, assignor to the Wilson-Jacobs Drum Co.	Chicago
1,256,917	05/14/1918	Drum Snare	Harry B. Jay	Chicago
1,277,285	08/27/1918	Drum	Samuel M. Badger	St. Paul, Minnesota
1,279,627	09/24/1918	Snare Drum	John E. Winne, assignor to Frederick C. Claessens	Troy, New York
1,281,107	10/08/1918	Damping Device for Snare Drums	Harold A. Van Valkenburg	Oakland, California
1,284,526	11/12/1918	Drum	John E. Winne, assignor to Frederick C. Claessens	Troy, New York
1,290,823	01/07/1919	Drum	Maximillian A. Wintrich	Chicago
1,293,599	02/04/1919	Drum	Tom Wilson	Chicago
1,326,842	12/30/1919	Drum	Harry A. Bower	Boston
1,334,334	03/23/1920	Tension Bracket for Drums	Charles B. Wanamaker, assignor to Leedy Manufacturing Co.	Indianapolis
1,335,867	04/06/1920	Drum Tightening Ear	Charles S. Walton	Philadelphia
1,354,028	09/28/1920	Snare Tensioning Device for Drums	Robert C. Danly	Chicago

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