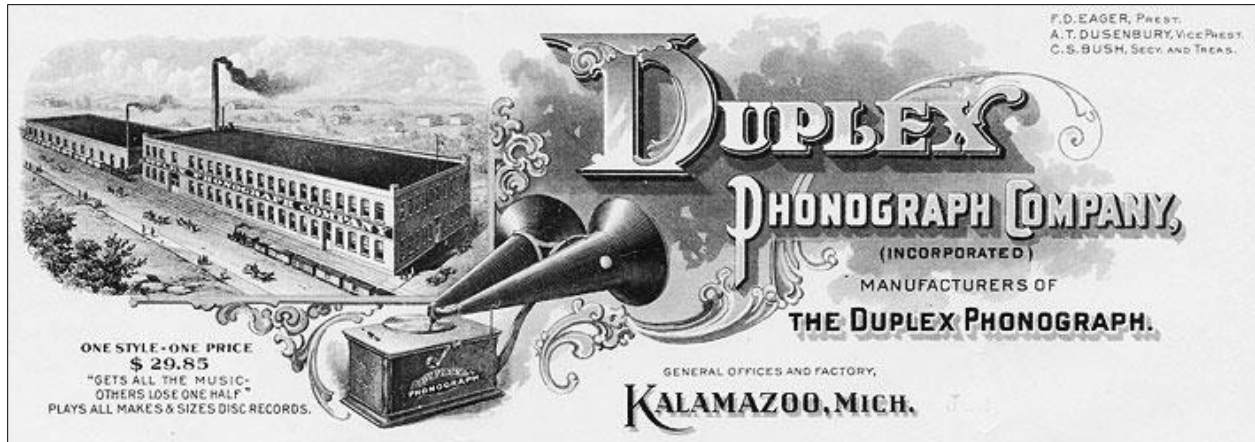


Duplex Phonograph Company

“Made For You In Kalamazoo”



Duplex Phonograph Company letterhead, c.1908

Courtesy, Robert Coon, Menasha, WI

As nineteenth century Victorian charm gave way to twentieth century modern, the phonograph emerged as a compelling new form of home entertainment. The skeptics, of course, refused to take the “talking machine” seriously at first, viewing it more as a toy than a serious musical instrument. Some dismissed records entirely, including John Philip Sousa who famously made his own disdain for “canned music” known in a 1906 article he called “The Menace of Mechanical Music.” Still, the phonograph continued to gain great popularity, especially after the emergence of Emile Berliner’s flat-disc “gramophone” records around 1900.

“An Entirely New Principle in Phonographs”

Before the appearance of electric phonographs in the 1920s, acoustic sound amplification (and recording, for that matter) was accomplished through the use of large metal (or glass, or even wooden) horns. The unique shapes of these horns soon created instantly recognizable icons for their respective manufacturers. In fact, the archetypal “gramophone” still remains a hallmark of The Recording Academy and the namesake for the industry’s top award, the “Grammy.”

In their heyday, however, “talking machines” could be found in a variety of styles and sizes, with horns ranging from sleek and simple to elaborately ornate. One rather novel approach employed two such horns arranged side-by-side in an attempt to offer “twice the sound” (or at least



An original Duplex phonograph

Photo: Nauck’s Vintage Records

that was the idea). With just such a model, The Duplex Phonograph Company made a brief yet significant impact on the commercial sound recording industry and helped to bring notoriety to the city of Kalamazoo with its famous “Made For You In Kalamazoo” dual-horn phonograph.

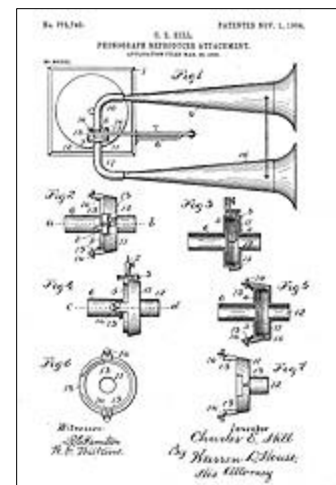


A fully restored Duplex phonograph
Photo: Raphael Cole

Charles E. Hill

The Duplex two-horn phonograph was the brainchild of a Canadian immigrant named Charles E. Hill (born May 1862), a self-proclaimed “talking machine expert” from Lincoln, Nebraska—an area, it seems, that played a prominent role in the early days of phonograph history. Leon Douglass, co-founder of the Victor Talking Machine Company, was a young Nebraskan when he displayed an early coin-operated phonograph at the 1893 Chicago World’s Fair, as was Erastus Benson, president of the Nebraska Phonograph Company and an affiliate of Thomas Edison. While it’s unclear if Hill was ever affiliated with either Benson or Edison, he certainly was in the right place to have been.

During the 1890s, the “talking machine” industry was controlled by a tightly-knit group of aggressive competitors, including the National Gramophone Company (Berliner and later, Victor), the Columbia



C.E. Hill's patent #773,740, 1904
U.S. Patent Office

Phonograph Company, and the National Phonograph Company (Edison). From about 1896, Hill worked for phonograph manufacturers and distributors in and around Kansas City, Missouri and reportedly oversaw the opening of several highly successful phonograph stores. It was during this time that Hill developed his own design for a seemingly unique dual-horn system, which attempted to gather and amplify the sound vibrations from both sides of a transducer's diaphragm, preserving, as Hill described, "sound-waves made at one side of the reproducer-diaphragm and which are ordinarily dissipated, and thereby lost to the audience."(*)

* (As stated in C.E. Hill's patent #773,740, U.S. Patent Office, 1904, lines 22-26). This statement makes for great marketing but is of course fundamentally flawed. Sound waves gathered in this manner are by nature out of phase and actually tend to cancel each other out. An example is discussed in a later section.



A rare photograph of "The Duplexophone" (Duplex phonograph prototype), c.1905

The Music Trade Review, May 1905

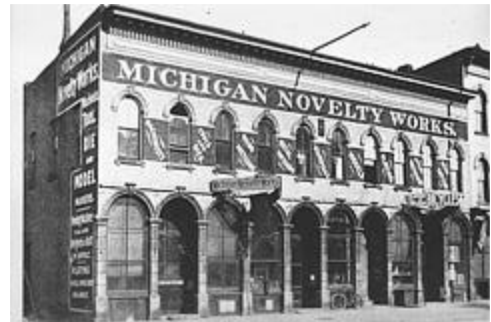
Hoping to create a louder, perhaps better sounding phonograph, and gain a foothold in this lucrative but tightly held industry, Hill filed an application for a patent (#773,740) on 20 March 1903 for his "phonograph reproducer attachment," which was granted 1 November 1904. Soon, Hill's "attachment" concept evolved into a full-scale prototype for a dual-horn phonograph of his own design.

“The Duplexophone Company”

On or around 15 April 1905, Hill and his associates allegedly* formed the “Duplexophone Company” in Lancaster County, Nebraska with initial capital of \$30,000. Hill set up his enterprise in a former lumber mill at 2418-2432 ‘N’ Street in Lincoln, Nebraska, where he planned to manufacture his own recently patented record store display shelving and phonographs. “Uptown” wholesale and retail offices were also planned, with possible addresses of 129 South 11th Street and 1241 ‘O’ Street in Lincoln. Company officers included Charles E. Hill, president and general manager; J. W. Clark, vice-president; M. Leusink, factory superintendent; and J. Y. M. Swigart, secretary and treasurer.

* Nebraska Supreme Court records (13 April 1909) indicate that Hill only “pretended to organize what was known as the ‘Duplexophone Company’” and that articles of incorporation were never actually filed with the Lancaster county clerk. On the other hand, a Nebraska charter for the Duplexophone Manufacturing Co. did seemingly exist, as it was reportedly canceled in 1909 without specific reason (Smythe).

Hill had big plans for his Duplexophone phonograph. Favorable reviews in *Talking Machine World* (New York) and *The Music Trade Review* (New York) stirred up a great deal of interest across the United States and abroad. An article published in *The Trade Review* (Lincoln, NE) on 13 May 1905 stated that the Duplexophone Company had purchased “a good factory building” and was expecting to turn out about 50,000 machines by year’s end. The factory in Lincoln was reportedly equipped with \$14,000 worth of new equipment and enough capacity to turn out 300 machines per day. A brand new five-story factory building was to be erected adjacent to the existing building, and “if necessary,” Hill stated, “we have room to equip for a capacity of 500 machines a day.” The first run of Duplexophone phonographs was slated for delivery by June first.



Michigan Novelty Works, ca 1904
Local History Room Photograph File P-729

But apparently Hill was not completely satisfied with the Duplexophone and/or the arrangements in Nebraska. Instead, he visited Kalamazoo, Michigan, several times in late 1905 and developed a relationship with the Kalamazoo Novelty Company (KNC), formerly known as Michigan Novelty Works.

Kalamazoo Novelty Company



Modern Machinery, June 1906

Kalamazoo Novelty Company was a small but growing specialty manufacturer located at 210-214 North Rose Street (east side of Rose, between Eleanor and Water streets) in Kalamazoo. Established in 1902 as Michigan Novelty Works, the company specialized in patent and model development, custom

manufactured mechanisms for slot machines and toys, and specialty equipment for other manufacturing firms, such as C. W. Post.

In October 1905, the business was sold and reestablished as the Kalamazoo Novelty Company with the motto, “Let us act as your factory.” According to the *Kalamazoo Gazette*, KNC set out to attract the attention of “the poor struggling inventor with a really worthy article... who possessed an ability to sell and not to manufacture”—precisely the sort of inventor that was Charles E. Hill.

“Canning Music in Kalamazoo”

With help from Kalamazoo’s Commercial Club (forerunner of today’s Chamber of Commerce), Hill gained enthusiastic local support for his new invention and (especially) for his ambitious marketing plan, which featured the catchphrase, “Made For You In Kalamazoo.” A prototype of the Duplex phonograph was produced by KNC and exhibited in Kalamazoo during November 1905; a manufacturing deal was inked by year’s end. Kalamazoo Novelty Company would manufacture the mechanical components for the phonograph, while “Silk Finish” horns would be brought in from Hawthorne & Sheble Manufacturing Company in Philadelphia, PA, and furniture-grade cabinets would “probably” (*Gazette*) be made in Grand Rapids, MI (“Furniture City”). The Duplex company would then assemble the machines in Kalamazoo and ship the finished units directly to customers by mail in response to orders received through “an aggressive advertising campaign” (*Telegraph*).



The Commoner, 8 December 1905

On December 1st, 1905, Allen T. Dusenbury, a recent graduate of University of Michigan’s College of Engineering, and already Kalamazoo Novelty Company’s treasurer and manager, became the new Duplex Phonograph Company vice president. When Charles Hill arrived in Kalamazoo in late December, he set up shop at 109-111 North Edwards Street, and soon thereafter personally delivered the initial order for five hundred Duplex phonographs to Kalamazoo Novelty Company. And this order, according to reports, was “simply a forerunner of larger ones to follow” (*Gazette*). The Duplex/KNC operation then employed about sixty workers with initial output of roughly twenty five finished machines per day. After months of planning, the first run of Duplex machines rolled off the line near the end of January.



The Duplex Phonograph

The Duplex phonograph was a big and uniquely beautiful instrument. The complete package was described in this 1905 advertisement:

“Case or cabinet [is] machine made throughout of solid quartered oak and handsomely decorated with inlaid French Marquetry, set-in columns at corners, hand rubbed and beautifully polished. The largest talking machine case made. It is 18 inches long, 14 inches wide, 10 inches high. The motor has large double springs and runs several records with one winding. It is the strongest and best motor manufactured, and will wear a life time. Reproducer, 4 inches in diameter, the largest ever made. Horn crane, made of brass and nickel plated. All trimmings made of brass and finely nickel plated. Two silk-covered brass horns, 30 inches long with 18 inch bells. These horns alone sell at retail stores for \$14. Three hundred best quality needles, and six selected records: making a complete outfit ready to play. This outfit would sell in stores at retail for \$125.” —*The Commoner*, 8 December 1905, p. 16



Location of the serial number, machine stamped along the top leading edge of the case
Photo courtesy Mark Lawson Antiques, Inc., Saratoga Springs, NY

Serial Numbers

Evidence suggests that each duplex phonograph carried a unique serial number, mechanically stamped on the front edge of the case under the cover. It is not yet known if these were stamped sequentially, but one might assume they were. A list of the known numbers (confirmed) follows. (If you own a Duplex phonograph that displays a serial number, please contact the author and we'll add it to our list.)

Documented Serial Numbers (verified by, date)

- No. 1399 Larry Crandell, Flushing, MI (November 2014)
- No. 1511 Larry Crandell, Flushing, MI (November 2014)
- No. 1521 Kristina's Collectibles, Bloomington, IL (October 2014)
- No. 1882 Kent Schoneman, Lexena, KS (May 2015)

- No. 2597 Rick Shindle, Waynesboro, PA (May 2015)
- No. 2628 Joe Cleveland, FL (February 2015)
- No. 2748 Kent Schoneman, Lexena, KS (May 2015)
- No. 2795 Stanford, OR (March 2015)
- No. 3060 David and Amy Frahm for Ms. Elsie Myers, Trenton, OH (September 2013)
- No. 3306 Dan & Linda Mostek, Howard County, NE (November 2012)
- No. 3529 Pete Petersen, Surprise, AZ (January 2013)
- No. 4452 Roger Stambaugh, Rock City, IL (October 2012)
- No. 4856 Larry Crandell, Flushing, MI (November 2014)
- No. 5557 Mark Lawson, Saratoga Springs, NY (December 2011)
- No. 5650 The Hamiltons (January 2013)
- No. 6647 Jerry Koch, Waite Park, MN (May 2015)
- No. 7116 Larry Crandell, Flushing, MI (November 2014) (displays number only w/o the word "No.")
- No. 7206 Raphael Cole, Miami, FL (September 2012)
- No. 7277 René Rondeau (May 2015)
- No. 7297 Jerry Blais (May 2015)

Advertising "The Greatest of All Musical Inventions"

The first advertisements for the Duplex phonograph appeared in William Jennings Bryan's Lincoln, Nebraska newspaper, *The Commoner*, during late 1905, with the advertised price of \$29.85. "We manufacture The Duplex Phonograph under our own exclusive patents at our factory in Kalamazoo, Mich.," the ads stated. "We make the goods and sell direct to the user. We have no jobbers or dealers. We can sell to the user just as cheap as we could to jobbers." Duplex promoted its product as being equal in value to the competitors' \$100-\$125 machines "at factory prices" under \$30.

"Made in Kalamazoo, Sold Around the World"

In 1906, Duplex began an aggressive \$40,000 national print advertising campaign. By mid-January, the distinctive dual-horn phonograph was "being advertised extensively in the leading magazines as a Kalamazoo product" (*Gazette*). Ads ran throughout the year in several national publications, including *Everybody's*, *The Theater*, *The National Magazine*, and others. By year's end, the distinctive ads touting the unique features of the Duplex phonograph—not to mention its low price—were beginning to appear in many additional publications, including *The Saturday Evening Post*, *Cosmopolitan*, *Literary Digest*, *Collier's*, *Kansas City Star*, *The New York Tribune*, *The Washington Times*, *Farm and Home*, *Orange Judd Farmer*, *Popular Mechanics*, *Argosy*, *The Delineator*, *Munsey's*, and a host of others.

Duplex Phonograph Factory Offices,
Kalamazoo, Mich.,

June 30, 1906

Mr. Chas. W. Bryan, Publisher
The Commoner,
Lincoln, Neb.

Dear Mr. Bryan;

It may interest you to know that "The Commoner" heads our list as an advertising medium. It has been a close race for first place between "Collier's Weekly" and "The Commoner." The cost for each sale made had been less in "The Commoner" than in any of the many publications that we have used. Strange as it may seem, the inquiries from "The Commoner" cost a little more than from "Collier's Weekly," but the percentage of sales was considerably greater.

For every dollar that we expend for advertising in "The Commoner" we have received in return \$9.03. In other words, it had cost approximately 11% for direct sales. Of course in addition to this we will have nearly as much more from the effect of our follow-up and general publicity. The showing "The Commoner" had made is certainly one of which you have a right to be proud.

Sincerely yours,

DUPLEX PHONOGRAPH CO.,
F. D. Eager, Sec'y and Manager.

Let Us Send You This **DUPLEX** Phonograph On Trial

Two-Horn **DIRECT FROM OUR FACTORY TO YOUR OWN HOME**

Double Volume of Sound

HERE is the explanation of the Duplex principle: When you hit a tin pan with a stick, which side of the tin pan gives forth the noise? Why both sides of course. If you collect the waves from one side of the vibrating pan, you get only half the noise. That's plain, isn't it? Well, the same thing holds true of the diaphragm of a phonograph. In every talking machine made heretofore, one-half of the sound waves are wasted. You get just one-half the sound that the diaphragm made—the rest was lost. The Duplex is the first and only phonograph to collect the vibrations and get all of the sound from both sides of the diaphragm. Because the reproducer or sound box of the Duplex has two vibrating diaphragms and two horns (as you see) to amplify the sound from both sides of both diaphragms. The Duplex, therefore, gives you all the music produced—with any other, you lose one-half. Compare the volume of sound produced by it with the volume of any other—no matter what its price—and hear for yourself!

Purer, Sweeter Tone

BUT that is not all, by any means. For the Duplex Phonograph not only produces more music—greater volume—but the tone is clearer, sweeter, purer and more nearly like the original than is produced by any other mechanical means. By using two diaphragms in the Duplex, we are able to dispense entirely with all springs in the reproducer. The tension spring used in the old-style reproducers to jerk the diaphragm back into position each time it vibrates, by its jerking pull roughens the fine wave groove in the record, and that causes the squeaking, squawking, harsh, metallic sound that sets your teeth on edge when you hear the old style phonograph. In the Duplex, the wave grooves of the record remain perfectly smooth—there is nothing to rough them—and the result is an exact reproduction of the original sound. As a special precaution against the presence of harshness resulting from vibrations, the points of contact between the horns and reproducer are protected by rubber—an exclusive feature of the Duplex Phonograph.

The Ideal Christmas Gift

Write To-day for Free Catalogue
and full particulars of the Duplex Phonograph, and details of our direct-from-factory selling plan.

We Pay the Freight
With every Duplex we give six 7-inch or three 10-inch records free.

Each horn is 30 inches long with a 17 inch bell

An Entirely New Principle in Phonographs

- Two vibrating diaphragms to reproduce the sound
- Two horns to amplify and multiply all the sound from both sides of both diaphragms.
- No tension spring and no cranking arm to cause harsh, discordant, mechanical sounds. Consequently, the Duplex produces a sweeter tone and greater volume of music than any other phonograph and is absolutely free from all metallic sounds.

Direct from the Factory

WE ask the privilege of proving to you that like Duplex gives double volume of music, of purer, sweeter tone than any other phonograph made. We want to prove it at our expense. We ask you to let us send you one at our expense—under an arrangement mutually satisfactory—for use in your home for one week. Invite your neighbors and musical friends to hear it, and if they do not pronounce it better—in volume and in tone—than the best old style phonograph, return it at once at our expense. That's a fair offer, but it isn't all. We save you in the price exactly \$75.00—because we save you all the laborers', middlemen's and dealers' profits. We will it to you at actual factory price. Sold through dealers the Duplex would cost you at least \$100.00—and it would be a bargain at that. Bought direct from our factory it costs you (see profit added) only \$29.85

Music in Your Home

THINK what a Duplex Phonograph will mean to you! The variety of entertainment you can command at trifling expense is practically unlimited. You can enjoy a delightful selection of songs, poems, piano, banjo, guitar, or violin music, short stories, anecdotes or dialect pieces, all reproduced by the marvelous two horned Duplex with the faultless fidelity of an instantaneous photograph. You can bring to your family and friends, in all that marvellous beauty, the price-less gems of musical art: the classic performances of famous artists like Paderewski, D'Almeida, Rued, Paganini, and Jan Kubelik. Or, you can listen, entranced, to the magic notes of melody from the throat of a Patti, Nellie, or Calve, and the great dramatic tenors, Caruso and Tannoyan. And, best of all, you can hear once more the voice of dear old Sam Jefferson as with matchless pathos, he delivers the lines of Rip Van Winkle to a former generation. For just before his death, this greatest and best loved of American actors left a perfect record, which, reproduced by the Duplex Phonograph, will preserve his living tones for the admiration and delight of thousands yet unborn.

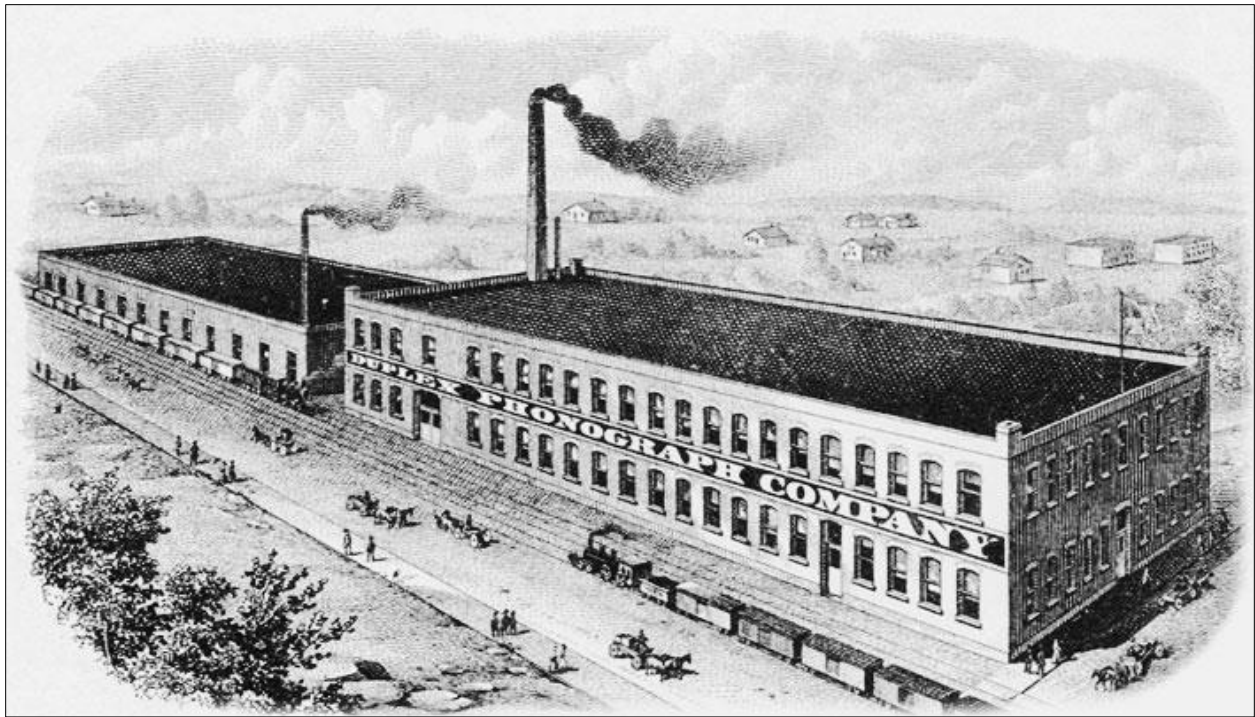
Size of cabinet, 15 inches by 14 by 10 inches high

THE DUPLEX PHONOGRAPH COMPANY,

148 PATTERSON STREET KALAMAZOO, MICHIGAN

Typical Duplex Phonograph Company magazine advertisement, 1906
Reproduced in 2011 by Steve Andersen, The Talking Machine Co.

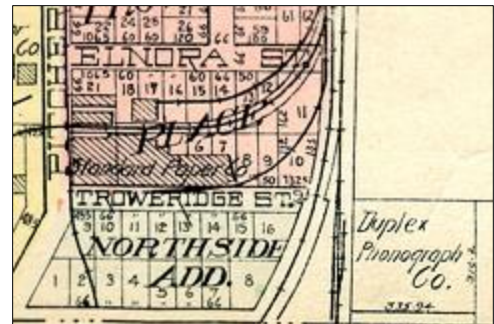
The Duplex Phonograph Company Factory



Duplex Phonograph Company factory, detail from company letterhead, c.1908

Courtesy, Robert Coon, Menasha, WI

Demand for the new Duplex phonograph grew and by mid-1906, KNC was forced to suspend all other contract work in an effort to supply the necessary Duplex phonograph components. The call went out for “office girls and stenographers,” and “girls who can operate typewriters,” but even with its operation fully devoted to Duplex, the Kalamazoo firm struggled to keep up as orders for the dual-horn phonographs arrived in to the North Rose Street facility. Clearly, the firm needed to expand if it was expected to survive.



Kalamazoo Atlas, 1910

Local History Room

On 17 May 1906, Duplex company secretary and general manager Frank D. Eager announced that 2.5 acres of land had been purchased at the northeast corner of Walbridge and Patterson in Kalamazoo where a new manufacturing facility would be built for Duplex.

The new Duplex Phonograph Company factory building, located near the Chicago, Kalamazoo & Saginaw (CK&S) Railway line on East Patterson Street, was to be a 60 x 120 foot two-story brick structure constructed by Andrew D. Loughead of Kalamazoo at a cost of \$12,000-\$16,000. The new facility included an additional 30 x 40 foot one-story building to the north, plus a second 40 x 100 foot two-

story corrugated iron structure for storage. The Quinn Plumbing Supply Company of Kalamazoo was contracted to install the heating plant.

With KNC's capacity now completely taken up with phonograph work, the Duplex Phonograph Company announced plans on July 1st to purchase the entire stock and equipment of the Kalamazoo Novelty Company, just as the foundations were being laid for the new Duplex factory building. Future contract work and goodwill of KNC would be transferred to the National Tool Company of Three Rivers. By August, the second story of the new Duplex factory was complete and ready for roof work to begin. Plans were afoot to have the new facility ready to occupy in September..



Duplex factory, July 2005

Photo: Keith Howard

Grand Opening Ball and Reception

By the time the new plant was ready to occupy, the firm had invested some \$25,000 (more than \$650,000 today) in its expansion project, and it was time to celebrate. On Friday evening, September 7th, Duplex company officials hosted a grand ball in the still vacant upper level of its new factory building. The room was specially decorated for the occasion with purple streamers, and a large American flag hung in the center of the room. Seated beneath the flag, George Newell's Full Orchestra provided popular ragtime pieces and sweet dance music. "A choice programme of selections rendered by a battery of Duplex phonographs" greeted guests as they arrived. In all, some 1,200 business associates, local dignitaries and socialites attended the gala event, enjoying refreshments and dancing across the hard maple floor inside the spacious the new building. "Punch was served in unlimited quantities, and everybody had a most enjoyable time." (*Music Trade Review*)

After the grand opening festivities were over, workers immediately began moving equipment from the North Rose Street facility into the new Duplex factory on Patterson. An additional \$15,000 worth of new machinery was purchased and installed as it arrived.

On Monday, 17 September 1906, production work began in the new Patterson Street factory with 150 employees and daily output of 150 machines—nearly six times that of the previous facility. As work progressed, a new 40 x 100 foot storage building, built by A. D. Loughead at a cost of \$3,000, was added

The time like their slogan was—"Made For You in Kalamazoo." The crowd commenced to come as early as 7:30 o'clock and by the time the orchestra struck up the music at 9 o'clock there were fully 1,200 people on the floor.

Frank Eager was there with his big smile and handshake. Mr. Hill was there and Mr. Dusenbury...

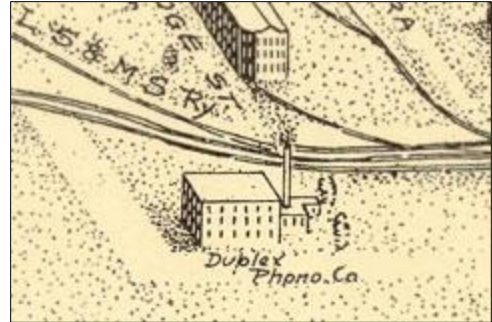
The big ball and reception was held on the second floor of the factory and all around the room chairs were placed for the comfort of those in attendance. One of the big two-horn phonographs, the product of the Duplex company, furnished music until the dancing commenced.

—*Kalamazoo Gazette*, 8 September 1906

on the north side of the factory to house raw materials. A CK&S railroad side track was added to provide Duplex with direct rail access, and the city approved an extension of its water mains along Patterson Street to reach the new plant for added fire protection.

Duplex Phonograph Company, Incorporated

Articles of incorporation were filed with the Secretary of State in Lansing on November 1, 1906, and capital stock was increased to \$100,000. Though it appears Charles Hill was no longer affiliated with the firm by this time, Frank Dewitt Eager, a former Nebraska politician, managing editor of the *Nebraska Independent*, and a retired colonel in the First Nebraska Infantry, continued as Duplex secretary and general manager. Allan T. Dusenbury of Kalamazoo remained vice president, while a triad of Nebraska business magnates rounded out the remaining roster of company officers. A. H. Armstrong, a clothing merchant from Lincoln, Nebraska was named the new company president, and A. H. Bickerstaff, also from Lincoln, was appointed treasurer. (Armstrong was president of the Armstrong Clothing Company in Lincoln; Armstrong and Bickerstaff were both principal officers in the Capitol Beach & Milford Railroad Co., a small electric streetcar line near Lincoln.) By year's end, the future looked bright indeed for the Duplex Phonograph Company.



Duplex factory "bird's-eye view" ca. 1908
Benford-Bryan Co. (Library of Congress)

Write today for catalog and full particulars of our FREE trial offer. You will never regret it. Please address	
The Duplex Phonograph Co.,	146 Patterson St., KALAMAZOO, MICH.
	1246 Powers Building, Chicago

Munsey's Magazine, September 1906

Locations and Street Addresses

According to company publications and advertisements, The Duplex Phonograph Company operated in three primary locations; Lincoln, Nebraska; Chicago, Illinois; and Kalamazoo, Michigan. Advertisements typically place the factory and general offices in Kalamazoo, however Chicago offices were mentioned in some ads, and occasionally a "Western Office" in Lincoln. While the actual locations of the Duplex offices are known, the street addresses used by the company in its advertisements vary considerably. As the following list illustrates, dozens of different street addresses were published, perhaps as a means of identifying the publication from which orders originated.

Known Office & Factory Locations

109-111 N Edwards Street, Kalamazoo, MI (1905-1906)
Patterson Street at Walbridge, Kalamazoo, MI (1906-1910)
112 S Burdick Street, Kalamazoo, MI (1910-1912)
2418-2432 'N' Street, Lincoln, Nebraska (1905-1906)
Powers Building, 37 S Wabash, Chicago, IL (1906)

Kalamazoo, MI Addresses (advertised)

10 Cedar St. (*Scott County Kicker*, 25 January 1908)
223 Edward [sic] St. (*The Commoner*, 6 July 1906)
Patterson St. (no #) (*The Graduate Magazine*, University of Kansas, 1906-07)
104 Patterson St. (*Everybody's*, July 1906)
106 Patterson St. (*The Theater*, Oct. 1906)
107 Patterson St. (*Cosmopolitan*, June 1907)
110 Patterson St. (*The Delineator*, December 1906)
111 Patterson St. (*Good Housekeeping*, November 1906)
126 Patterson St. (*Munsey's Magazine*, November 1906)
127 Patterson St. (unidentified magazine, 1907)
128 Patterson St. (*The World To-Day*, December 1906)
133 Patterson St. (*The Commoner*, 26 July 1907)
138 Patterson St. (unidentified magazine ad, 1908)
143 Patterson St. (*Saturday Evening Post*, 13 October 1906)
143 Patterson St. (*Saturday Evening Post*, 26 Jan, 9 Feb, 16 Mar 1907)
146 Patterson St. (*Munsey's Magazine*, September 1906)
146 Patterson St. (*The Scrap Book*, 1906)
147 Patterson St. (*McClure's Magazine*, November 1906)
148 Patterson St. (*New York Tribune*, 23 September 1906)
149 Patterson St. (unidentified magazine ad, 1907)
151 Patterson St. (*Success Magazine*, October 1906)
153 Patterson St. (*Watson's Magazine*, October 1906)
165 Patterson St. (*Kimball's Dairy Farmer*, Jan., Aug., Sep., 1907)
172 Patterson St. (*The Theater*, June 1907)
173 Patterson St. (*The Theater*, July 1906)
178 Patterson St. (*The Michigan Alumnus*, October 1906)
183 Patterson St. (*Farm Journal*, November 1906)
187 Patterson St. (*The National Magazine*, September 1906)
189 Patterson St. (unidentified magazine ad, 1906)
194 Patterson St. (*Salesmanship*, May 1907)
197 Patterson St. (*The Boston Cooking School Magazine*, December 1906)
201 Patterson St. (*Farming Magazine*, December 1906)
202 Patterson St. (*Uncle Remus's Magazine*, October 1907)

208 Patterson St. (*The Reader*, December 1906)
214 Patterson St. (*The World Almanac*, 1906)
220 Patterson St. (*The Daily Picayune*, New Orleans, LA, 6 October 1907)
295 Patterson St. (*Every Where*, March 1908)
299 Patterson St. (*The Pandex of the Press*, July 1907)
303 Patterson St. (*Industrial Engineering and Engineering Digest*, September 1907)
304 Patterson St. (*The Railway Conductor*, December 1907)
316 Patterson St. (*The Connecticut Magazine*, Summer 1907)
330 Patterson St. (*The Ohio Magazine*, January 1908)
331 Patterson St. (*Popular Mechanics*, September 1907)
344 Patterson St. (*The Nautilus Magazine*, August 1907)
348 Patterson St. (*Technical World*, March 1907)
357 Patterson St. (*Medical Insurance*, August 1907)
359 Patterson St. (*The Philistine*, 1907)
372 Patterson St. (*The Literary Digest*, 31 August 1907)
374 Patterson St. (*Catholic World*, July 1907)
382 Patterson St. (*Santa Fe Employee's* [sic] *Magazine*, January 1908)
398 Patterson St. (*American Poultry Advocate*, December 1907)
410 Patterson St. (*Camera Craft*, 1907)
412 Patterson St. (*Sunset Magazine*, April 1907)
12 River St. (*Hunter, Trader, Trapper*, August 1908)
702 River St. (unidentified magazine ad, 1907)
704 River St. (*Popular Mechanics*, December 1907)
709 River St. (unidentified magazine, 1907)
716 River St. (*Munsey's Magazine*, 1908)
719 River St. (unidentified magazine, 1907)
722 River St. (*McCall's*, January 1908)
97 Wall St., C. Q. De France, Mgr. (*Hunter, Trader, Trapper*, March 1909)
900 Wall St., C. Q. De France, Mgr. (*The Progressive Woman*, March 1909)
988 Wall St., C. Q. De France, Mgr. (*FRA Magazine*, March 1909)

Chicago, IL Addresses (advertised)

1226 Powers Building (*Munsey's Magazine*, 1906)
1227 Powers Building (unidentified magazine ad)
1228 Powers Building (*The World To-Day*, April 1906)
1241 Powers Building (*Watson's Magazine*, September 1906)
1246 Powers Building (*Munsey's Magazine*, September 1906)
1248 Powers Building (*New York Tribune*, 23 September 1906)
1250 Powers Building (*The Review of Reviews*, January 1906)
1251 Powers Building (unidentified magazine ad, 1906)
1253 Powers Building (*Watson's Magazine*, October 1906)
1277 Powers Building (*Cosmopolitan Magazine*, June 1906)

- 1287 Powers Building (*The National Magazine*, September 1906)
 1289 Powers Building (unidentified magazine ad, 1906)
 154 Wabash (Duplex letterhead, dated February 1907)
 156 Wabash (Duplex company literature, undated)

Lincoln, NE Addresses (advertised)

- 1221, 1223, 1225, 1227 'O' St., Lincoln, Neb. (*The Commoner*, 29 December 1905)
 1233 'O' St., Lincoln, Neb. (*The Commoner*, 6 July 1906)
 1241 'O' St., Lincoln, Neb. (*Watson's Magazine*, September 1906)
 1250 'O' St., Lincoln, Neb. (*The Review of Reviews*, January 1906)
 1251 'O' St., Lincoln, Neb. (unidentified magazine ad, 1906)
 1277 'O' St., Lincoln, Neb. (*Cosmopolitan Magazine*, June 1906)

The sweetest tone of all—the greatest volume of sound

The DUPLEX

Two Diaphragms
Two Horns

Bring to your home the voices of famous singers in all their intensity and sweetness

Note the two vibrating diaphragms of the DUPLEX. They double the volume of sound, and the two horns give it amplified expression. You get more music—but more than that, you have the sweetest, purest, clearest tone ever produced from any phonograph ever made. You get all the subtleties of inflection, the deepest and the lightest chords.

You can bring to your home in all their original intensity and beauty the greatest efforts of our FREE trial offer. The Duplex proves all that we claim for it at our expense. Seven days' trial in your own home, and then, if you keep it, a remarkable saving.

Send the coupon.

Save all our money's worth in the coupon.

The Duplex Phonograph Co.
104 Patterson St., Kalamazoo, Mich.

NAME _____
ADDRESS _____

Will you let us send you this two-horn **DUPLEX** Phonograph on trial?

Double Volume Sweeter Tone

You can save \$70.85 by buying the Duplex Phonograph direct from our factory, and get an instrument of sweeter tone and greater volume than any other phonograph in the world. Two 10-inch brass silk-covered horns with 17-inch bells. Cabinet 18 by 14 inches; 10 inches high.

A New Principle in Phonographs

THE Duplex Phonograph has two vibrating diaphragms to reproduce the sound, two horns to amplify and multiply the sound from both sides of both diaphragms. The result is a sweeter tone and a greater volume of sound than any other phonograph. It is absolutely free from all mechanical noises, and we sell it direct to you at factory prices on trial.

Double Volume of Sound

There are two vibrating diaphragms, each with its own horn. The sound from each diaphragm is amplified by its own horn, and the two horns give you the sound of two horns. The result is a sweeter tone and a greater volume of sound than any other phonograph. It is absolutely free from all mechanical noises, and we sell it direct to you at factory prices on trial.

Purer, Sweeter Tone

There is no other sound in the world like the sound of the Duplex. The sound is pure, sweet, and clear. It is the sound of the human voice, and it is the sound of the most beautiful music. The Duplex gives you the sound of the human voice, and it is the sound of the most beautiful music. The Duplex gives you the sound of the human voice, and it is the sound of the most beautiful music.

Write to-day for catalog

1220 O Street LINCOLN, NEB. The Duplex Phonograph Co. CHICAGO, ILL.

Direct From Where they are Made to Where they are Played

We are the only manufacturers of Phonographs selling direct from the factory to you. We save you all dealers', agents' and distributors' profits, averaging from \$15 to \$45 on each machine, and give you a better Phonograph.

The Duplex is the largest and clearest toned Phonograph in the world. It is the only one in the world that has two horns. It is the only one that gets all the music out of the Record without the squeak. The Duplex is as far superior to other Phonographs as a Concert Grand is to a Street Piano.

It must be seen and heard to be appreciated.

Let us send you this greatest of all musical inventions on **FREE TRIAL. ALL CHARGES PAID**

Listen to its marvelous tones in the quiet of your own home, then if you are not convinced that it is the best Phonograph you ever listened to, ship it back at our expense, and the Free Trial will cost you a cent.

Write a Postal Card today for our beautiful Free Catalog and large colored Picture, 42 inches long, showing The Duplex in full size. Don't let anyone anywhere persuade you to buy a Phonograph at any price till you have received our Catalog.

The Duplex Phonograph Co., 702 River St., Kalamazoo, Mich.

THE \$29.85 DUPLEX

Local Marketing Efforts

Interestingly, advertisements for the new Duplex phonograph did not appear in the local Kalamazoo newspapers until late in the 1906 holiday season, a full year after the company was established. Print ads were first seen in the *Kalamazoo Telegraph-Press* on Friday, 7 December 1906, and the following day in the *Kalamazoo Gazette*, with similar ads running in both papers nearly every day throughout the early months of 1907.

A public salesroom for the new Duplex phonograph was set up in December 1906 at the Ihling-Cone Furniture Co., 223-225 East Main in Kalamazoo, where local customers could listen and compare the Duplex against other brands. This salesroom appears to be one of the few locations—if not the only one—where a Duplex phonograph could be purchased in a traditional retail (non-mail order) setting.

While display in a furniture store might seem a bit unusual today, “talking machines” were then viewed as novelty items and often associated with fine home furnishings. It is interesting to note, however, that Grinnell Brothers, a prominent local piano, musical instrument, and Victor/Victrola retailer, was located right next door to Ihling-Cone. The Victor Company would later play a key role in the demise of Duplex.

Model Roller Coaster

One rather interesting marketing ploy came during the 1908 Christmas season, when Duplex shop foreman Clell Miller fashioned a miniature working model of a figure-eight roller coaster to help draw attention to the Duplex company and its in-store product display. Constructed of metal and powered by electricity (a unique feature in 1908), Miller’s model was an exact replica of the popular attraction at Oakwood Park, which had just opened the previous year. The model coaster, detailed right down to the ticket seller, the “barker,” and landing platform, took Miller three months to complete and was displayed at Sam Folz’ “Big Corner Store” throughout the holiday shopping season.

Kalamazoo Records: “All the Music”

“With every Duplex we give six 7-inch or three 10-inch records free.”

In addition to the phonograph machines themselves, the Duplex Phonograph Company issued a significant number of 78 rpm recordings under the “Kalamazoo” label, perhaps releasing upwards of 2,000 titles. It remains unclear whether Kalamazoo records were ever sold commercially, or if they were intended strictly as promotional items to be given away with the purchase of its machines—perhaps both. Either way, it is certain that few—if any—of these were unique recordings. In a statement to the press on 6 February 1907, Frank Eager indicated that Duplex did not manufacture its own recordings, but instead held contracts with Columbia, the International Record Company (IRC), the American Record Company (ARC), and surprisingly even Victor. Current research supports this claim, as many Kalamazoo records have been identified as originating from IRC and ARC masters. Newspaper ads in early 1907 offered “free, six 7-inch records or three 10-inch records” with every Duplex.



Kalamazoo Record Label

Photo: Nauck's Vintage Records

Labels

Kalamazoo records were produced in variations of at least seven different series:

- Tan labels numbered in the 100s (from masters of unknown origin)
- Orange and white labels numbered in the 100s (from masters of unknown origin)
- Orange labels numbered in the 1000s (possibly from IRC masters)
- Blue and white labels numbered in the 1000s (possibly from IRC masters)

- “Red Label” series produced by the American Record Company (ARC)
- Red label seven inch records numbered in the 100s (probably produced by ARC)
- Tan label seven inch records numbered in the 100s (probably produced by ARC)

Recording Artists

According to the advertisements, available artists included such conductors and musicians as Ignacy Paderewski, Eugen d’Albert, Raoul Pugno, and Jan Kubelik; vocalists like Adelina Patti, Nellie Melba, Emma Calve, Enrico Caruso, and Francesco Tamagno; plus novelty recordings like Joe Jefferson’s characterization of “Rip Van Winkle.” Later ads offer “records in any language.”

“Home Concert Collection”

By the end of 1907, Duplex had upped its “free records” ante substantially with the introduction of the “Home Concert Collection,” a deluxe package that included a Duplex phonograph, plus a greatly expanded selection of records. Advertisements from October 1907 offered “The Square Deal,” which came complete with “16 of the best ten-inch records that money can buy, all specially selected to give a variety of music so that a dozen people of the most varied tastes can be given two hours’ entertainment.” The package featured “the best band and orchestra pieces, instrumental and vocal solos, vocal duets and quartettes, talking pieces, comic songs, sacred pieces, etc.” “We make the selections because we know how to choose the best pieces,” the ads boldly claimed, “That’s part of our business.” To complete the package, the “Home Concert Collection” incorporated an assortment of eight hundred(!) needles, “a bottle of 3-in-1 oil, a first-class oil can, a can of Monarch metal polish, and a neat needle box.”

The Beginning of the End

During the decades that surrounded the turn of the 20th century, the infant sound recording industry was a hotbed of innovation, but it was also a tangled mess of underhanded “handshake” agreements, patent ruses, and contradictory court rulings. The sudden popularity of the phonograph and its resulting commercial success spawned a great number of technical innovations, and a seemingly endless stream of new competitors. Major companies like the Victor Talking Machine Company, Edison, Columbia, and the United States Gramophone Company held numerous patents (Edison alone held more than 1,000) which they aggressively fought to protect through the use of high powered (and high priced) patent attorneys, lengthy court battles, and costly litigation. Thanks to the high visibility afforded by its aggressive national advertising campaign, the Duplex Phonograph Company soon landed itself squarely in the sights of industry’s “big guns.”

Victor Cites Patent Infringement

Operations had barely gotten underway in the new factory building when the first legal suit was brought against Duplex by the Victor Talking Machine Company and the United States Gramophone Company.

On 6 February 1907, a *Kalamazoo Gazette* article stated that preliminary injunction papers had been filed in circuit court by Victor's team of attorneys, claiming that the Duplex machine infringed on the Victor-owned Berliner patent (#534,543). (Victor acquired the licensing rights to Emile Berliner's 1887 patent for a "sound reproducing apparatus" in 1900.) Duplex company officials, along with their attorneys Samuel Edmonds and Dallas Boudeman, countered by stating that Duplex patents (Hill, #773,740) were properly registered, and no infringement had occurred. "I am a little surprised at the suit being brought," said F. D. Eager in a statement to the *Kalamazoo Evening Telegraph*, "and have taken the matter up with Dallas Boudeman of Kalamazoo and our counsel in New York and both say that nothing of a serious nature can come out of the dispute and that there is little danger of an injunction, either temporary or permanent being issued."

Preliminary Injunction

An injunction was indeed issued, however, and on March 21st, 1907, the Kalamazoo plant was forced to cease manufacturing operations, although assembly, shipping, and office operations were allowed to continue as normal. A skeleton crew of twenty five workers (13 male, 12 female) was retained to keep assembly and shipments rolling at the rate of about 30 machines per day. Duplex company manager F. D. Eager stated that production delays were exacerbated by "the non-arrival of a carload of horns which [were] manufactured in Philadelphia," and that the firm had "at least \$30,000 worth" (*Gazette*) of inventory on hand in Kalamazoo to work with, "parts of over 1,000 machines... sufficient to supply the normal trade for 30 to 40 days" (*Telegraph*).

"Duplex Wins; No Injunction"

In May, this initial injunction was denied by a federal court judge, and manufacturing operations were allowed to resume, although the court battle between Victor and Duplex was far from over. "Duplex Wins" read the headlines as company officials tried to downplay the situation by stating that Victor had simply been trying to block the company's tremendous growth (which was true) and that the Duplex Phonograph Company was now free to expand. As Victor and Duplex lawyers continued to argue over possible patent infringement, Duplex advertised locally for more help—stenographers, typewriter operators, folders, card filers, machinists, buffers and polishers—in an effort to move forward with production of its dual-horn phonograph.

"'The Duplex Phonograph' which I ordered from the Duplex Phonograph Company, 410 Patterson Street, Kalamazoo, Michigan, through seeing their advertisement in 'Camera Craft,' has been most thoroughly tested during the past two weeks, and has fully justified the high claims made by the manufacturers. It has a tone that is powerful, exact, and not metallic or mechanical; in fact it surpasses the higher priced machines by the possession of what might be termed 'a human element' in the rendition of vocal selections. E. E. Roberts, Alameda, Cal." —*Camera Craft*, July 1908

Charles Q. De France

During the early months of 1907, Duplex hired a new advertising manager from Nebraska named Charles Q. De France. Once an editor for the *Lincoln (NE) Independent*, De France was an active political figure in Nebraska and served as circulation manager for *Watson's Magazine*, a monthly literary magazine and political sounding board published in New York. By the end of 1906, De France had become the associate editor and business manager of the magazine, and undoubtedly would have become aware of the Duplex Phonograph Company through the many advertisements that appeared in its pages. When *Watson's Magazine* was sold in late 1906, De France is said to have "carried off a copy" of its mailing list "to Kalamazoo, Mich., where," much to the editor Thomas Watson's chagrin, "he used it in circulation for the Duplex Phonograph people." (Thomas Watson, 1908)

"Two Diaphragms; Two Horns"

Faced with impending legal challenges, Duplex altered the design of its phonograph slightly in an attempt to circumvent the patent infringement allegations. The reproducer was modified to include two diaphragms instead of one, thus setting it apart from its competitors, or so the claim was made. Advertisements proudly called attention to "all the latest improvements," including "the two vibrating diaphragms of the DUPLEX," claiming that "they double the volume of sound, and the two horns give it amplified expression." Despite the company's attempts to modify its product, the court allowed the lawsuits against Duplex to proceed.

Management Changes

During 1907 and 1908, sales evidently slumped with the adverse publicity as the legal battles continued. Production delays and mounting debt were taking their toll on the young firm and not surprisingly, there was a significant change in management around this time. Armstrong and Bickerstaff both left the firm; Frank Eager became president, and Charles S. Bush assumed the role of secretary and treasurer. As advertising manager, C. Q. De France continued to solicit new business with distinctive Duplex ads in a variety of national magazines, including bold new offers like "easy payments" and "seven days' free trial." Despite the downturn, 1908 financial statements still reveal a firm of significant size and worth, with assets of \$111,000 (roughly \$2.69 million today) and liabilities in excess of \$51,000 (nearly \$1.23 million today).

In May 1908, an additional \$50,000 mortgage was taken out to cover a past due bond, as the announcement was made that another firm was already making plans to take over the Duplex building. An inspection of the Duplex factory in Kalamazoo on 14 October 1908 as reported by the Michigan Bureau of Labor and Industrial Statistics revealed that just nine workers were employed by the firm at that time; seven male and two female, a far cry from the one hundred fifty-member workforce just two years earlier. Clearly the company's days were numbered.

Victor Sues Again

Although Duplex continued limited production for the next few months, the lawsuits were piling up. A second suit was filed by the Victor Talking Machine Company in January 1908 citing additional patent violations (Charles G. Conn, #624,301), which forced Duplex to suspend its advertising campaign—the very lifeblood of its mail order business model. And in April, the Phillips Publishing Company sued and won a small settlement against Duplex over an unpaid advertising contract.

Management Changes Again

Management at Duplex changed a final time in early 1909, when Eager, Bush and Dusenbury all exited the firm. Charles Q. De France became company president and manager, Hilda Hoover Bangs took over as secretary, and former shop foreman, Clell D. Miller, assumed the role of vice president and factory superintendent. An inspection on 6 August 1909 by the Michigan Department of Labor confirms that just three workers were employed by Duplex at that time.

Court Deals A Fatal Blow

Finally, on 27 May 1909, the *Grand Rapids Evening Press* reported that U.S. Circuit Court Judge Frank E. Knappen had granted a second injunction against Duplex on behalf of the Victor Talking Machine Company with its partner, the United States Gramophone Company of Philadelphia, which immediately brought production of the dual-horn phonograph to a grinding halt. Duplex attorney Dallas Boudeman stated that an appeal was being considering, but the attempt failed and Duplex went out of the manufacturing business shortly thereafter.

Although not directly related to the Duplex case, Victor brought a similar suit at roughly the same time against Hawthorne & Sheble, the company that manufactured the distinctive silk-wrapped horns for Duplex, which resulted in the demise of that company, as well.

Trustee Edwin J. Phelps brought a foreclosure suit against Duplex in November. According to the *Kalamazoo Gazette*, a new

“Judge Knappen’s courtroom resembled a 5-cent phonograph parlor yesterday when the arguments in the case of the Victor Talking Machine company against the Duplex Phonograph company were begun. The case is brought for the recovery of damages of an alleged infringement of patent covering the manufacture of talking machines. The arguments will consume several days. Several talking machines of both makes are on exhibit in the courtroom as evidence in the case and will be demonstrated by experts from the factories of the rival companies.”

—*Grand Rapids Press*, 9 June 1908

Factory And Machinery FOR SALE

The Duplex Phonograph factory buildings, 2 1-2 acres of land, and all machinery, brass and steel stock and office fixtures will be held at Chancery Sale on Thursday, March 3, 1910, at ten o'clock a. m., at the north front door of the Court House in Kalamazoo.

The personal property consists of sixty (60) shop machines, including shaper, lathes, milling machines, drill presses, punch presses, semi-automatic screw machines, electroplating plant and dynamo, automatic pinion cutter, universal grinder, gas furnace, assorted drills, reamers, cutters and other tools, and assorted sizes brass and steel stock.

Also seven typewriters, safe, two roll-top desks, four flat-top desks, filing cabinets, tables, chairs, etc.

Persons interested in any article or portion of this property are invited to call at the Duplex Phonograph Factory, corner of Patterson and Walbridge streets. (Take Patterson car) or telephone 2425, Monday, Tuesday or Wednesday for further information.

Also good horse, harness and dray.

Charles Q. De France, Receiver
Kalamazoo, Mich

Kalamazoo Gazette, 27 February 1910

manufacturing firm (Bevier Gas Engine Company) had by then already “chosen as a factory site the plant of the defunct Duplex Phonograph Company, at the junction of Patterson Street and the Lake Shore Railroad.”

Foreclosure Sale

A foreclosure sale announcement followed and the remaining Duplex company property went up for auction on 3 March 1910. “Choice location; new building; going cheap” cited an ad in the Detroit Free Press. Real estate was valued at \$1,400; total debt (bonds and accumulated interest) owed by the firm exceeded \$47,000 (approx. \$1,186,000 today). Frank D. Eager (former Duplex president and general manager), Charles S. Bush (former Duplex secretary, treasurer, and a principal Duplex stockholder) and Charles A. Dewing (a prominent Kalamazoo businessman) jointly entered the winning bid of \$12,500. A list of remaining miscellaneous items was advertised later in the month.

VICTOR TALKING MACH. CO. v. DUPLEX PHONOGRAPH CO.

(Circuit Court of Appeals, Sixth Circuit. October 15, 1910.)

No. 2,036.

1. PATENTS (§ 328*)—INFRINGEMENT—TALKING MACHINES.

In the Conn patent, No. 624,301, for an improvement in graphophones, claims 7 and 8, the only feature of novelty is the employment of a double bell, as distinguished from a single bell, in supporting relation with the sound box, and in view of the prior art the patent must be limited to a construction in which the two horns are blended or united at their dis-

The Final Appeal

In a desperate final attempt, Duplex lawyers appealed Judge Knappen’s decision in the Conn patent (#624,301) suit, citing that a “double sound box” with “two separate diaphragms” and “the employment of a double bell (horn), as distinguished from a single bell” differentiated the Duplex from previous inventions and thus did not infringe. In a circuit court of appeals on 15 October 1910, judges Severens, Warrington and Cochran upheld Judge Knappen’s earlier ruling. Duplex was indeed finished.

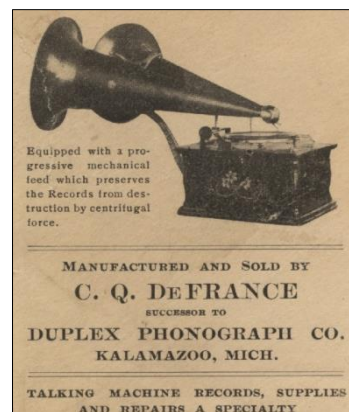
With the judges’ final ruling, the end became official on 21 October 1910. “The Duplex Phonograph company, for several years a dangerous rival of all similar concerns, has formally passed out of existence as the result of an order issued by Judge F. E. Knappen upon request of the receiver, Charles Q. De France, and Trustee E. J. Phelps” (*Grand Rapids Press*).



Judge Frank E. Knappen,
c.1907

Phonograph Repair

Charles Q. De France, final owner of Duplex as a manufacturing firm, continued to operate a phonograph repair shop called the Duplex Phonograph Company out of a third floor office above Frank Doyen's saloon at 112 South Burdick Street until about 1912, perhaps as a venue for liquidating the remaining Duplex inventory. Company letterhead touts "The New Model 1911" as being "manufactured and sold by C. Q. De France, successor to Duplex Phonograph Co., Kalamazoo, Mich." (no street address given) with "talking machine records, supplies and repairs a specialty." The updated model features "a progressive mechanical feed which preserves the Records from destruction by centrifugal force."



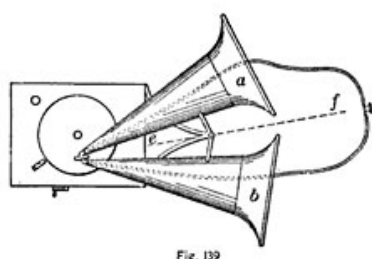
Duplex letterhead, ca. 1911

Author's collection

Kalamazoo city directories listed De France as advertising manager for Duplex through 1908, then company president and general manager thereafter. Business listings for the Duplex Phonograph Company ceased after 1912. De France remained in Kalamazoo as a writer until 1914, when he rejoined Col. Frank Eager (former Duplex GM) in Lincoln, Nebraska, to assist with a political campaign.

"Double Volume of Sound" (or not)

Legalities aside, it should be noted that one of the primary selling points of the Duplex phonograph, its "Double Volume of Sound," was somewhat of a misnomer. A physics textbook published in 1910 by a University of Michigan professor actually uses the Duplex phonograph itself as an example to demonstrate the principal of sound interference and the fundamentally flawed notion that sound waves gathered from both sides of a vibrating diaphragm will result in increased volume. Indeed, that is not necessarily true.



"Interference between waves from the same source of sound may be demonstrated by means of the so-called 'duplex phonograph.' In this instrument the diaphragm used to reproduce the vibrations of sound recorded on the record plate has a 'horn' connected with each side (Fig. 139). When this diaphragm vibrates, it produces simultaneously a condensation on one side and a rarefaction on the other. Hence the sound waves reaching the medial line ef between the two horns a and b are always in opposite phase. As a fact of observation, when the ear of the listener is on the medial line near the horns, the intensity is noticeably less than at other points. The demonstration is made more complete by inserting rubber tubes in the small ends of the horns by means

of tight-fitting corks, and bringing the two tubes of equal length together to a T-tube fitting the ear. The other ear should be closed. The two wave systems do not completely annul each other, but if the listener cuts off one system by pinching either tube, the intensity of the sound is increased to a surprising degree."

—*College Physics*, Henry Smith Carhart*, ©1910, p. 208

* On 11 June 1908, Professor H. S. Carhart was called upon to give "expert testimony" in the courtroom "on the points involved" in the Duplex case.

Epilogue: Was the Duplex Company Actually in the Wrong?

Patent infringement is no small matter, but was the Duplex Phonograph Company actually in the wrong? Few would argue that at very least, it was in the wrong place at the wrong time. After the Victor Talking Machine Company was established in 1901, a grueling series of legal battles ensued in an effort to defend the more than two hundred patents held by Victor in association with the manufacture of flat disc records and players. Victor's significant financial resources ensured its powerful team of patent lawyers would successfully put numerous upstart phonograph manufacturers out of business—including Duplex—in an all-out attempt to monopolize the market. By the time the Duplex case was finalized in 1910, the recording industry was controlled by a trio of giants; the American Graphophone Company (Columbia), Edison and, of course, Victor.



But as the phonograph industry continued to change and grow, seemingly contradictory rulings cast considerable doubt over many of the precedent patent cases that had once favored Victor. Emile Berliner's basic patent that was used against Duplex (#534,543) expired in February 1912, which set the stage for new competition. After refusing to pay licensing fees to Victor in 1919, the Starr Piano Company of Richmond, Indiana—parent company of Gennett Records—joined forces with other phonograph manufacturers (Aeolian-Vocalion, General Phonograph (OKeh), Canadian Compo Company, et al.) and took on the seemingly inexorable giant in a monumental court battle. After months of litigation, the Starr Piano Company successfully defeated Victor in February 1921 with Judge Learned Hand's historic ruling, which rendered several of Victor's patents invalid. This landmark decision opened the flood gates and paved the way for the phonograph boom of the 1920s. Had a ruling such as this been handed down a decade or so earlier, indeed the future might have been different for the Kalamazoo firm.



A restored Duplex phonograph
Photos: Grant Kornberg, Chapel Hill, NC

Still, a century later, Duplex phonographs are highly prized for their unique appearance and extreme scarcity. What few machines do exist often change hands at prices well into the thousands of dollars. "Kalamazoo" records are exceedingly rare, as well, and highly prized among collectors.

Continuing Research

Like many of our Local History essays, this article is by no means a definitive study; rather it should be viewed as a work-in-progress. If you have new information, corrections, or items to share, please contact the author or the Local History Room.

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Written by Keith Howard, Kalamazoo Public Library Staff, 2009. Revised and updated December 2011.



Kalamazoo Record Labels

Photos: Nauck's Vintage Records

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Acknowledgements

Inventing Entertainment: The Early Motion Pictures and Sound Recordings of the Edison Companies

<http://www.loc.gov/collections/edison-company-motion-pictures-and-sound-recordings/>

A Library of Congress Collection. This site features 341 motion pictures, 81 disc sound recordings, and other related materials, such as photographs and original magazine articles. Cylinder sound recordings will be added to this site in the near future. In addition, histories are given of Edison's involvement with motion pictures and sound recordings, as well as a special page focusing on the life of the great inventor.

The Antique Phonograph Society (formerly Michigan Antique Phonograph Society)

<http://antiquephonograph.org/>

A worldwide society of collectors who share a passion for the preservation of antique phonographs and records. The group publishes a quarterly journal called The Antique Phonograph (formerly known as The Sound Box).

Nauck's Vintage Records

<http://www.78rpm.com/>

International auctioneers of original 78 rpm and cylinder records and phonographs (1890-1960)

The Old Crank

<http://www.oldcrank.com/>

Vintage phonographs & ephemera

The Victor-Victrola Page

<http://www.victor-victrola.com/index.html>

A site dedicated to phonographs made by The Victor Talking Machine Company from 1901 through 1929. It contains detailed information about the various models that were produced by Victor, along with rarity, design features, technical information, valuation, etc. This site is for beginners and seasoned collectors alike.

Other

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Kalamazoo Valley Museum Donations Wish List:
Duplex phonograph record player (1905-1910)

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