

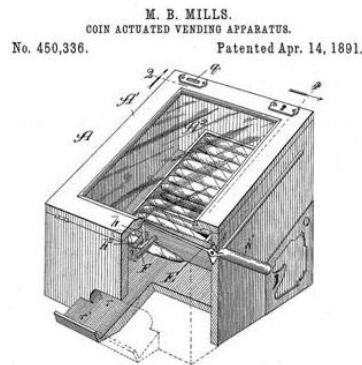
# Mills



# Jukeboxes

## Company History

The Mills Novelty Co. started with the ideas of the inventive Mortimer Birdsul Mills, born on the 5th August 1845 in the village Sparta on the northern Canadian side of Lake Erie. Mortimer came to Clinton in Iowa and worked as a sign painter, and he married Kate Josephine Fuller on the 1st May 1866. A few years later, in fact on the 13th September 1871, he was naturalized as American citizen. Mortimer B. Mills had many patents to his name, mainly related to railroad crossing signal equipment. In the mid 1880s he was still registered as a sign painter living in Dekalb, Illinois, and in the late 1880s he was vice-president of the Railroad Switch Signal and Gate Co. in Chicago. Mortimer B. Mills then patented his own small cigar vending machine, and founded the M.B.M. Cigar Vending Machine Co., and the first exhibition of Mills vending machines from the workshop at 125 West Randolph Street took place in Chicago in May 1890. The name of the family owned company was changed to Mills Novelty Co. at 11-19 South Jefferson Street in 1897/98, when the controlling share was transferred to the third son Herbert Stephen Mills born on the 11th November 1870. However, Mortimer B. Mills still had his own company, the Chicago Vending Machine Co. at 63 West Washington Street, registered in 1899. The Mills Railroad Gate Co. headed by Mortimer B. Mills was also still active and managed by vice-president Oswald A. Bogue of The Dakota Co., a new name for the former Bogue-Mills Manufacturing Co..



Mortimer Birdsul Mills, 1845-1939  
Kate Josephine Fuller Mills, 1850-1943

Herbert Stephen Mills was like his father an active businessman, and the production of various amusement and vending machines and trade stimulators grew. His older brother Franklin W. Mills born in November 1868, and later also his younger brother Bert Elwood Mills born in August 1892 were active in the daily running of the factory. Family members continued to play an important role in running the company for decades to follow, and Herbert S. Mills' own four sons were raised in Oak Park, Illinois, and stayed in the area until the late 1930s. A brother Ernest Gordon Mills born in July 1884 was also for many years superintendent at the Mills factory until he died in November 1934.

The first commercial phonographs with the Mills name came around 1905, but Herbert S. Mills knew as a businessman that money was earned in the amusement and vending machines field and only in the music field if the talking machines alias commercial phonographs were novelties and combined with other features. The Mills factory produced a few really nice commercial phonographs around 1912/13 to compete especially against the Caillophones made by the Caille Brothers Co. in Detroit. The company was founded on the 1st August 1901 by the brothers August A. (1867-1916) and Adolph A. Caille (1863-1937).



Herbert S. Mills (1904)



Trademark: June 12, 1912

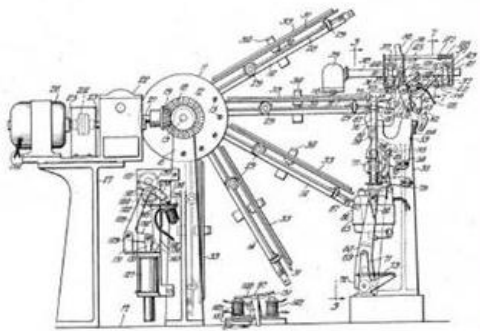


(1907)

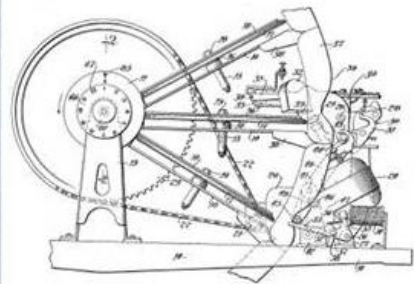
The competitive models in question did not have any selections to offer the patron, but they were very typical in design of the era. Both the Mills and the Caille companies became well-known for production of various arcade and amusement machines during the first half of the 20th century, but they were indeed also represented on the market for commercial phonographs. However, the cabinets were expensive and maintenance cost probably too high to compete against the impressive selective machines like the “Gabel’s Entertainer” and “Regina Hexaphone”, and Herbert S. Mills did not develop new commercial phonographs until the mid 1920s, and then it was in fact his younger brother’s idea.

It is well described in an interview with Bert Elwood Mills conducted by Donald Barr that Herbert Stephen Mills was against the development of electrically amplified phonographs. Herbert loved the classic violin music from the by then famed Mills Violano machines developed and patented by the Swedish born engineer Henry Konrad Sandell, who worked for the Mills company in the period from 1904 until 1924. When Bert told his brother Herbert that he would like to make some experiments with amplified phonograph it was rejected immediately, and since

Herbert was a man of temperament the much younger Bert waited a little to work on it in the factory experimental workshop. He waited until his brother was on his usual six-week vacation in Florida, where he loved fishing with a good scotch whiskey at hand on his boat, and it was a fact that amplified phonograph music would take over and eliminate all other mechanical music machines within only a few years. Bert Elwood Mills started working on a ferris wheel mechanism in the summer 1925, although Herbert had forbidden him to do so by saying that they made the “Violano” and did not want to make more music. When Herbert returned from his vacation Bert had finished the first test machine, and wanted to present it to Herbert. It was not ready for production in the factory, but it was playing, and in his words ‘it sounded pretty darn good’. It took him several days to get Herbert into the experimental workshop to hear the phonograph, and in the meantime he had been ‘fired’ because he made it against his brother’s wishes, but he still came into the factory every day. In Bert’s words he got Herbert in there one evening at six o’clock, and they left at one o’clock in the morning. They had played all the records they had four times, and Herbert just sat there and listened to them. Next morning when Bert came to the factory he found Herbert in the tool room, where the test machine was, and Herbert was telling the tool makers to tool up for it. Bert wanted to make a few changes, and asked for a few months to make it perfect, but Herbert wanted it done immediately. Afterwards the tool makers had to scrap some of the first tools, but the first non-selective commercial phonograph was a reality. It played the twelve records in sequence, but Bert soon made it selective and competitive for the market.



Bert Elwood (Bertie) Mills



In 1926, the company moved from Green Street to a new plant of 375,000 square feet, comprising a factory and administrative building, at 4100 Fullerton Avenue in northwest Chicago. At the same time Axel Fredrick Larson (1868-1936) at the Western Electric Piano Co. developed a selective phonograph called the “Electraphone”, and the team at Automatic Musical Instruments Co. (AMI) in Grand Rapids led by engineer Clifford Henry Green (1882-1934) developed a music machine known as the “National Automatic Selective Phonograph”. The J. P. Seeburg Piano Co. was also working on a selective “Melotone” phonograph, so the new era of electrically amplified phonograph music was on the way big time, and several other manufacturers would follow.



One major problem for the first generation of amplified commercial phonographs was that the records were not uniform, so that the volume would differ quite a lot. The Mills phonographs therefore had a gadget developed by Bert E. Mills that made it possible for the operator to adjust the level of amplification individually for each record when it was put into the machine. About ten years later a very reliable volume control system was developed and patented for the Rudolph Wurlitzer Co. by Paul Ulrich Lannerd (1895-1963).



The ferris wheel mechanism developed by Bert E. Mills became the heart in the series of “Hi Boy” phonographs of the late 1920s, but the machines were rather big for smaller locations. The cabinets were not design patented. Also the following “Troubadour” series had the 12-selection ferris wheel mechanism until the late 1930s, when the new 20-selection “Throne of Music” series was introduced. The impressive “Throne of Music” was developed by Laurence Bostock Burnham (1894-1944), and the cabinet design was part of the complete patent filed on the 3rd August 1940. The next model, the four-inch narrower “Empress” with big cabinet parts of transparent plastics (different colour combinations were available) was designed by Everett Byron Eckland (1904-1957). According to the manager Arthur Victor Cooley, Everett B. Eckland also designed the previous “Do Re Mi”, “Swing King”, “Studio”, and “Zephyr” models of 1936-1938, but unfortunately none of the cabinet designs were filed for patent.

After Herbert Stephen Mills died in 1929, and also his brother Frank W. Mills had died in 1927, the four sons of Herbert, and the two uncles Ernest G. and Bert E. (*Bertie*) were running the company. However, Ernest Gordon Mills died in November 1934, and the four sons of Herbert took over the main administration of the firm: Frederick Leon (*Fred*) Mills was president, Ralph Joseph (*Gordon*) Mills was vice-president in charge of sales, Herbert Stephen Mills Jr. was treasurer and manager of the plant after uncle Ernest, and the youngest Hayden Robert (*Bill*) Mills was secretary.



Another line in the jukebox history led to the big audio/visual machines, which mainly the Mills Novelty Co. of Chicago tried to make popular in the 1940s. The main problem for the manufacturers of film machines had since the idea was conceived first time before 1910 been the construction of reliable reel operating mechanisms. After decades of experiments the Mills Novelty Co. finally got a reliable mechanism using RCA-projectors at the end of the 1930s, which could be used for 16mm film with sound tracks officially called ‘Soundies’ (one reel with 8 film clips released per week). The film for the “Mills Panoram” machines were mainly produced by RCM Productions named after the three involved men: the founder James (*Jimmy*) Roosevelt (head of Globe Productions Inc.), the songwriter Sam Coslow, and of course Fred L. Mills (head of the Mills Novelty Co.), and distributed by The Soundies Corp. of America. To contain the mechanism the Mills Novelty Co. needed a nice cabinet, and the industrial designer Everett Byron Eckland (1904-1957) of Oak Park, Illinois, who had been consulted by the company through the 1930s, came up with the design for it.

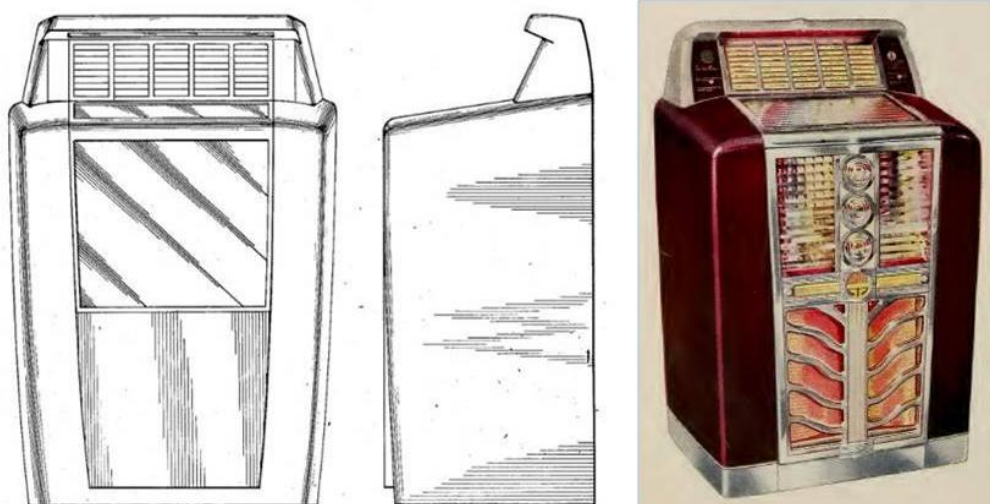


The remote control unit was design patented by Arthur Harold Bouterious (1899-1955), and he also constructed the electrical remote control system, patents were filed on the 6th August, 1941. In 1942/43 there were about 10,000 machines operated nationwide,

but in 1946 only about 2,000 “Mills Panoram” were still on location due to war time restrictions and trouble with the cinema film projectionists’ union. Today several of the mighty “Mills Panoram” (*Model MI-1340*) machines are preserved among collectors and museums, and they are certainly not as unpopular today as they were among film projectionists in the mid 1940s. Everett Byron Eckland also filed another design patent for an audio/visual machine in 1945, but the patent was never assigned to the Mills Novelty Co. at the time. The machine, however, was produced by the Mills Industries Inc. around 1947 as a “Sono-Vision” without coin-operation.

On the 26th April 1944 the company was incorporated and the official name was changed from Mills Novelty Co. to Mills Industries Inc. in order to cover all of its various enterprises. Sadly, Fred L. Mills died only aged 49 a few months later, early in July 1944, and it seems a lot of contacts were lost with his death. During the war years Mills was the only manufacturer allowed to spend materials on non-important goods, and continued to produce “Panoram” with film clips directed to the war effort after the War Production Board issued the General Limitation Order ‘L-21-a’ on the 1st March 1942.

On the 1st April 1946 the Bell-O-Matic Corp. was established as exclusive distributor of slots and vending products manufactured by the Mills Industries Inc., and the phonograph division was in fact separated. The last commercial phonograph to leave the production line was the “Constellation 951”. It is said, that a couple of boxes of the front grille medallions were sold as scrap to Preston Thomas Tucker Sr. (1903-1956) of Ypsilanti, Michigan, and that these were used as horn buttons on the Tucker Torpedo automobiles in 1948.



Early in 1948 the Mills company was financially troubled, surely due to the serious competition from the new 100-selection jukeboxes presented on the market by the Seeburg Corp., and in December that same year the entire commercial phonograph division was sold to another old family owned company, the H. C. Evans Co. in

Chicago. At the time, the chairman of the board of the Mills Industries Inc. was Ralph Joseph (*Gordon*) Mills and the president was Herbert Stephen Mills Jr., and the brothers were also vice-presidents of Bell-O-Matic Corp., whose officers included president Vincent Cecil Shay (1900-1961) and vice-president in charge of advertising his brother Grant Francis Shay (1906-1981). Both companies were at the time located in Fullerton Avenue in Chicago, but the production of commercial phonographs with the name Mills on front had come to an end.

Finally, as closing remarks it is sad to note that the youngest of the founder's sons, Hayden Robert (*Bill*) Mills, lost his life on the 13th July 1949 in a traffic accident near Wheaton west of Chicago. His uncle, Bert Elwood (*Bertie*) Mills, the inventor of the Mills phonograph mechanism that started the adventure in the mid 1920s, founded his own firm, the Bert E. Mills Corp., in 1946 to develop the first successful vending machine to sell hot coffee to the public. His company later became the first to be taken over in a six year company acquisition program launched by the Seeburg Corp. in 1958. Bert Elwood Mills passed away in Arizona in May 1985.

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*Almind, 02-2012  
Revised, 03-2024*

#### Mills Family

Mortimer Birdsul Mills August 5, 1845 – January 3, 1939

Kate Josephine *Fuller* Mills April 13, 1850 – March 21, 1943

*Married May 1, 1866*

#### *2<sup>nd</sup> Generation:*

Cecil Zachariah Mills March 25, 1867 – July 2, 1963

Franklin W. Mills November ■, 1868 – May 24, 1927

Herbert Stephen Mills November 11, 1870 – February 3, 1929

Oliver N. (*Ollie*) Mills December 10, 1874 – August 24, 1878

Ross L. Mills April 5, 1875 – August 25, 1876

Guy Birdsul Mills December 9, 1876 – December 30, 1931

Harry Edward (*Eddie*) Mills October 5, 1879 -

Ernest Gordon Mills July 5, 1884 – November 27, 1934

Bert Mills May 10, 1891 -

Bert Elwood (*Bertie*) Mills August 28, 1892 – May 20, 1985

#### *3<sup>rd</sup> Generation:*

#### *Sons of Herbert S. Mills*

Frederick Leon Mills December 8, 1894 – July 5, 1944

Ralph Joseph (*Gordon*) Mills July 16, 1898 – January 13, 1964

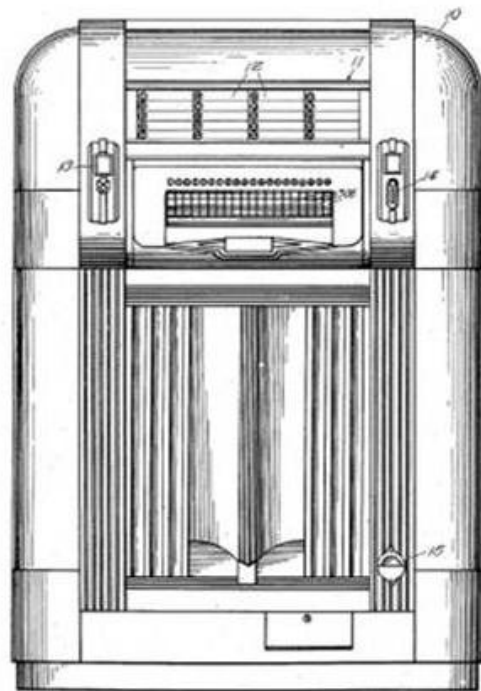
Herbert Stephen Mills Jr. November 15, 1899 – July 21, 1959

Hayden Robert (*Bill*) Mills October 26, 1901 – July 13, 1949





“Do Re Mi” on location



Inventor  
Lawrence B. Burnham  
by C. S. Lloyd

”Throne of Music”

Phonographs, speakers, and remote controls made by Mills Novelty Co.

<i>Phonographs</i>			
Prod.	Model	Sel.	Speed
(1905)	Automatic Phonograph, <i>Columbia BG, battery</i>	non	2-min
(1907)	Automatic Phonograph, <i>Columbia BG, 110V</i>	non	2-min
(1912)	Automatic Phonograph, cylinder	non	2-min
(1912)	New Automatic Phonograph, disc	non	10-inch
(1912)	Fortune Teller Phonograph, cylinder	non	2-min
168A	Illustrated Song Machine, disc	non	10-inch
169A	Automatic Phonograph, disc	non	10-inch
(1926)	Automatic Phonograph	non	78
800	Hi-Boy	non	78
801	New Hi-Boy	12	78
802	Hi-Boy w/radio	12	78
810	Troubadour	12	78
811	Troubadour, single coin	12	78
814	Troubadour, triple coin	12	78
814	Troubadour, no coin, tubes	12	78
861	Troubadour, w/radio	12	78
864	Troubadour, w/radio, no coin	12	78
865	Troubadour, no coin, mixing panel, tubes	12	78
870	Troubadour, triple coin	12	78
871	Troubadour w/radio	12	78
873	Zephyr	12	78
874	Zephyr	12	78
875	Troubadour, single coin	12	78
875	Troubadour, triple coin	12	78
876	Dance Master, green-silver, single coin	12	78
877	Dance Master, black-silver, single coin	12	78
878	Dance Master, natural, single coin	12	78
879	Dance Master, silver-green	12	78
880	Dance Master, black-silver-green	12	78
881	Standard Dance Master, natural	12	78
885	Deluxe Dance Master, natural, single coin	12	78
886	Deluxe Dance Master, natural, triple coin	12	78
887	Deluxe Dance Master, inlay	12	78
888	Do Re Mi, one coin, dual speaker	12	78
889	Do Re Mi, two coin, dual speaker, custom	12	78
890	Studio	12	78

891	Studio	12	78
892	Studio	12	78
893	Swing King, one coin, blue-silver	12	78
894	Swing King, one coin, natural	12	78
895	Swing King, two coin, blue-silver	12	78
896	Swing King, one coin, natural	12	78
898	Swing King, two coin, custom-silver	12	78
899	Zephyr	12	78
900	Zephyr	12	78
900L	Zephyr	12	78
901	New Zephyr, one coin	12	78
902	Can. Zephyr, two coin, lucite bar	12	78
902L	Can. Zephyr, two coin, illuminated grill	12	78
903	Can. Zephyr, one coin, lucite bar	12	78
903L	Can. Zephyr, two coin, illuminated grill	12	78
	Throne of Music, yellow	20	78
	Throne of Music, green	20	78
	Throne of Music, red	20	78
	Throne of Music, Mother of Pearl	20	78
	Empress, Stagetone	20	78
	Empress, Lovea, yellow-blue	20	78
	Empress, Lovea, red-onyx	20	78
	Empress, Florentine	20	78
	Empress, Gold	20	78
	Panoram for Soundies		
	Sono-Vision for Soundies, <i>no coin</i>		
950	Constellation Standard	40	78
951	Constellation Ensemble	40	78
951W	Constellation, pilaster, gold	40	78
<i>Speakers</i>			
Prod.	Model		
549	Table Model Dynamic Speaker		
550	Console Speaker		
552	Outside Speaker		
1100	Cabinet Speaker, AC, 3 watt		
1101	Cabinet Speaker, DC, 3 watt		
1102	Cabinet Speaker, 1/4 watt		
1103	Floor Corner Speaker, AC, 3 watt		
1104	Floor Corner Speaker, DC, 3 watt		
1105	Floor Corner Speaker, 1/4 watt		

1106	Console Speaker, AC, 3 watt		
1107	Console Speaker, DC, 3 watt		
1108	Console Speaker, 1/4 watt		
1109	Ceiling Corner Speaker, AC, 3 watt		
1110	Ceiling Corner Speaker, DC, 3 watt		
1111	Ceiling Corner Speaker, 1/4 watt		
1112	Single Unit Park Speaker, AC		
1113	Single Unit Park Speaker, DC		
1114	Double Unit Park Speaker, AC		
1115	Double Unit Park Speaker, DC		
1116	Triple Unit Park Speaker, AC		
1117	Triple Unit Park Speaker, DC		
1118	Speaker, 1/10 watt		
1119	Speaker, 1/4 watt		
1121	Ceiling Cabinet Speaker		
1122	Ceiling Cabinet Speaker, DC		
1123	Ceiling Cabinet Speaker, AC		
1270	External Dance Master Speaker		
	Ensemble Wide Range Tone Wall Speaker		
<i>Remote Controls</i>			
<b>Year</b>	<b>Model</b>	<b>Sel.</b>	
<i>1930</i>	Wallbox, round	non	
<i>1931</i>	Wallbox, square, gold	non	
<i>1932</i>	Wallbox	non	
<i>1932</i>	Radio Coin Box Stroller, batteri	non	
<i>1939</i>	Wallbox	20	
<i>1940</i>	Panoram Wallbox	non	
<i>Other products</i>			
75	Coin-operated radio timer		
350	Coin-operated radio		
1200	Microphone w/table stand		
1201	Microphone w/table stand		
1203	Microphone w/floor stand		
	Mills Marathon Needle, 2000 plays		





“Empress” on location



“Empress”