

STAT210 (Mining the History of Holyoke) Analysis of the Parsons Paper Registry

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Introduction

The Parsons Paper Company of Holyoke, Massachusetts, founded by Joseph C. Parsons, operated from 1853 to 2005. During this time, thousands of employees have contributed to the production of high-quality paper. At one point in time, the Parsons Paper Company was the largest paper manufacturer in the United States and had multiple overseas clients as well. The mill eventually burned down in 2005.

During the 1860s, a registry kept track of the employees. This book is 396 pages long and almost 170 years old. Of the 396 pages, 317 of them recorded each payroll. It currently sits in the History Room at the Holyoke Public Library.

Deliverables and more information

More information about the payroll register scans, related reports, and the curated partial list of employee names can be found at https://github.com/STAT210-S23/STAT210-Holyoke-History-Room/tree/main/Parsons_Paper_Company_payroll_register

The first few rows of the curated list of names shared as a spreadsheet displayed in Table 4. The full spreadsheet is accessible at the following link: https://github.com/STAT210-S23/STAT210-Holyoke-History-Room/blob/main/Parsons_Paper_Company_payroll_register/Parsons_Names.csv

Here is a link to the scans of the book <https://r.amherst.edu/apps/nhorton/Parsons-Paper/>. This display was created using a Shiny App, a computer program. This link now allows anyone to view each page, making it more accessible to the general public.

The Google Spreadsheet can be found here:

https://docs.google.com/spreadsheets/d/1P5Bq0hTl4v8frQNiB37XOT_Rat4EfA1FDRCD2f4uDaE/edit?usp=sharing

Acknowledgments

In this course, I had the opportunity to analyze this book thanks to scans of the original curated by Professor Nicholas Horton and other members of the class. Of course, Professor Horton would have never been able to curate these scans without the help of Eileen Crosby, the head of the History Room at the Holyoke Public Library. She is a wonderful historian who we owe this class to.

Goal

The goal of this project was to create a spreadsheet that contained the names of the employees listed in the registry. We partly accomplished this goal by sharing our work with the History Room at the Holyoke Public Library. They now have access to the database. Others may be able to pick up where we left off by transcribing some of the remaining payroll records.

Furthermore, with this data made public, perhaps we would be able to find descendants of the employees living today, more than 160 years later. Acknowledging and respecting history educates the youth and perpetuates the memory and lessons our ancestors left behind. It is important to understand that these are more than just names on a page. These were hard-working men, women, and children that laughed, cried, and lived, just as we do today.

The goal of this report was to transcribe as many of the names in the registry as we could and conduct various analyses. Using Ancestry.com, I was able to find information about some of these people and their families. This data would be especially helpful in connecting current Holyoke residents to their ancestors.

Findings

We began the process by expanding upon the transcription of page 253 done by Professor Horton. From there we had a goal of transcribing the first two years of the registry, transcribing two payrolls five years into the registry, and transcribing the last few payrolls as well. We felt this would give us a sufficient glimpse into the employees throughout the decade. In Figure 1 and Figure 2, you can see what the process actually looked like. We wrote down the page number of the transcription, the last name, and the first name.

In total, we transcribed 80 pages of the registry. This was less than one-third of the entire registry but given the scope of the project and the time frame, this was sufficient enough. The 80 pages covered 28 payrolls. Each payroll was about 3 pages of the registry and corresponded to 1 month of employment. We recorded over 2700 entries which translated to about 500 separate employees.

In some cases, someone's name could appear more than once in a payroll suggesting they had more than one responsibility at the paper mill that was accounted for individually. Once we had collected what we thought were enough names, we began to run an analysis. We looked at things like how often a name appeared, how many employees were in each payroll, how long the average employee worked for, and what last name was most common.

Genealogical insights

During the 1860s, it was common for many family members to work together in paper mills. Here are three families I tracked down on Ancestry.com while transcribing the registry. The most popular last name recorded was Dower which is where I started.

Based on what I found, Ellen Dower was the mother of John, Johanna, Mary, Catherine, Margaret, James, and Laurence. Ellen was born in Ireland in 1813 while all of her children were born in Massachusetts. John was the oldest born in 1839. Johanna was born the following year, then Mary in 1841. In 1843, Catherine was born, followed by Margaret. Lastly, James and Laurence were the youngest born in 1846 and 1848 respectively. At one point, all of the Dower children worked at the Parsons Paper Company and Mary Dower's name appeared the most often in the registry compared to her siblings. Later in life, Laurence became a butcher. Despite viewing multiple old documents, I could not find any information on their father. The information I gathered on the Dowers can be found in Table 1.

The next family I decided to research was the Perrys. Emma C. Perry, (her name appeared the most in the registry) was born in 1843 in Connecticut and had three sisters, Ellen, born in 1836 in Connecticut as well, Alice, born in 1846 in Massachusetts, and Harriet, born in 1848 in Massachusetts as well. Their mother was Abby Perry born in Connecticut in 1807 and their father was William Perry, born in Connecticut in 1803. Everyone but Abby and Harriet worked at the paper mill. The information I gathered on the Perrys can be found in Table 2.

S. H. Oxley
Wm. Somerby
James S. Ferris
James Dewie
William Johnson
Lawrence Sprinkle
William Perry
James M. Gurr
Peter abdrr.

Figure 1: Here are the first names on the first page.

page_number	lastname	firstname
1	Ordway	F.W.
1	Pomeroy	William J.
1	Ferris	James S.
1	Divine	James
1	Jopson	William
1	Wrinkle	Lawrence
1	Perry	William
1	Burr	James M.
1	Alarr	Peter

Figure 2: Here are the transcribed names on the first page on the Google Spreadsheet.

Table 1: The Dower Family History at Parsons Paper Company

Full Name	First Appearance	Last Appearance	Years Worked
Dower, Catherine	1861-01-01	1862-12-01	1.9138
Dower, Edward	1869-01-01	1869-01-01	0.0000
Dower, James	1861-02-01	1868-03-01	7.0773
Dower, Johanna	1861-01-01	1868-03-01	7.1622
Dower, John	1861-01-01	1862-12-01	1.9138
Dower, Kate	1861-05-01	1861-12-01	0.5859
Dower, Lawrence	1862-08-01	1862-12-01	0.3340
Dower, Maggie	1868-02-01	1868-02-01	0.0000
Dower, Margaret	1861-01-01	1869-01-01	8.0000
Dower, Mary	1861-01-01	1869-01-01	8.0000

Table 2: The Perry Family History at Parsons Paper Company

Full Name	First Appearance	Last Appearance	Years Worked
Perry, Alice J.	1861-12-01	1866-01-01	4.085
Perry, E.M.	1861-05-01	1861-05-01	0.000
Perry, Ellen M.	1861-01-01	1862-02-01	1.084
Perry, Emma C.	1861-01-01	1862-12-01	1.914
Perry, George H.	1861-01-01	1862-12-01	1.914
Perry, N.	1862-01-01	1862-01-01	0.000
Perry, William	1861-01-01	1862-12-01	1.914

Finally, I researched James and John Vaughan as these two employees appeared very often throughout the decade. John was James' father. His wife was Fannie Vaughan. They had two other children named Ellen and Catherine. The parents were born in Ireland and immigrated to the United States. James was born in 1824, lived in dwelling number 708, and was illiterate. It is possible that his mother Fannie died of pneumonia. On page 178, the name "Mrs. Vaughan" appeared, yet we do not know exactly who this was. In the tables below we can see each when each of these people worked at the paper mill and for how long. The information I gathered on the Vaughans can be found in Table 3.

Table 3: The Vaughan Family History at Parsons Paper Company

Full Name	First Appearance	Last Appearance	Years Worked
Vaughan, James	1861-01-01	1862-12-01	1.914
Vaughan, John W.	1861-01-01	1869-01-01	8.000
Vaughan, Mrs.	1866-01-01	1866-01-01	0.000

Possible change in accountant

During the transcription process, I noticed that the handwriting changes over time suggesting that there was more than one accountant working for the paper mill. I determined that the accountant changed on page 97 based on the handwriting. Looking at the capital letters, “M” and “P” are drastically different from pages 96 to 97. Looking at Figure 3, page 96, the “P” of “Patrick Mahany” starts with a high loop and is tight. On page 97, the same letter begins with a down-stroke and turns into a wide, swooping curve. Additionally, the “M” of “Michael Ryan” on page 96 starts at the bottom of the line and turns into an up-stroke. Conversely, this letter on page 97 in Figure 4 starts up high with a small loop. The letter practically looks like a “W”. For more examples, in Figure 5 on page 34, (keep in mind this is still the first accountant), the capital “P” and capital “J”’s are the same. Lastly, in Figure 6 (page 105), the second accountant’s style can be seen in the capital “P” and M.” This is strong evidence to suggest that this is when the accountant changed.

Top 10 most common employees

This list shows who worked the most payrolls throughout the decade. We transcribed 28 in total. Both Job Allen and his daughter Lucy worked all 28 pay periods we transcribed. Eliza also was in the top 10, working in 26 payroll periods.

(Note that some employees’ name’s appeared more than once per payroll: here we counted them only once.)

J W Orplway
Jr S Somerby
James S Ferris
Patrick Mahany
John Allen
Patrick Ryegan
Michael Ryan

Figure 3: Page 96 of the registry. I believe this is the last page the first accountant wrote on.
September 1st, 1863

NAMES.

J H Ordway
W S Pompeow
James S Fakis
Patrick Mahany
Sobst Allen
Patrick Feegan
Michael Ryan
John Feegan
Patrick Ryan

Figure 4: Page 97 of the registry. I believe this is the first page the second accountant wrote on. October 1st, 1863

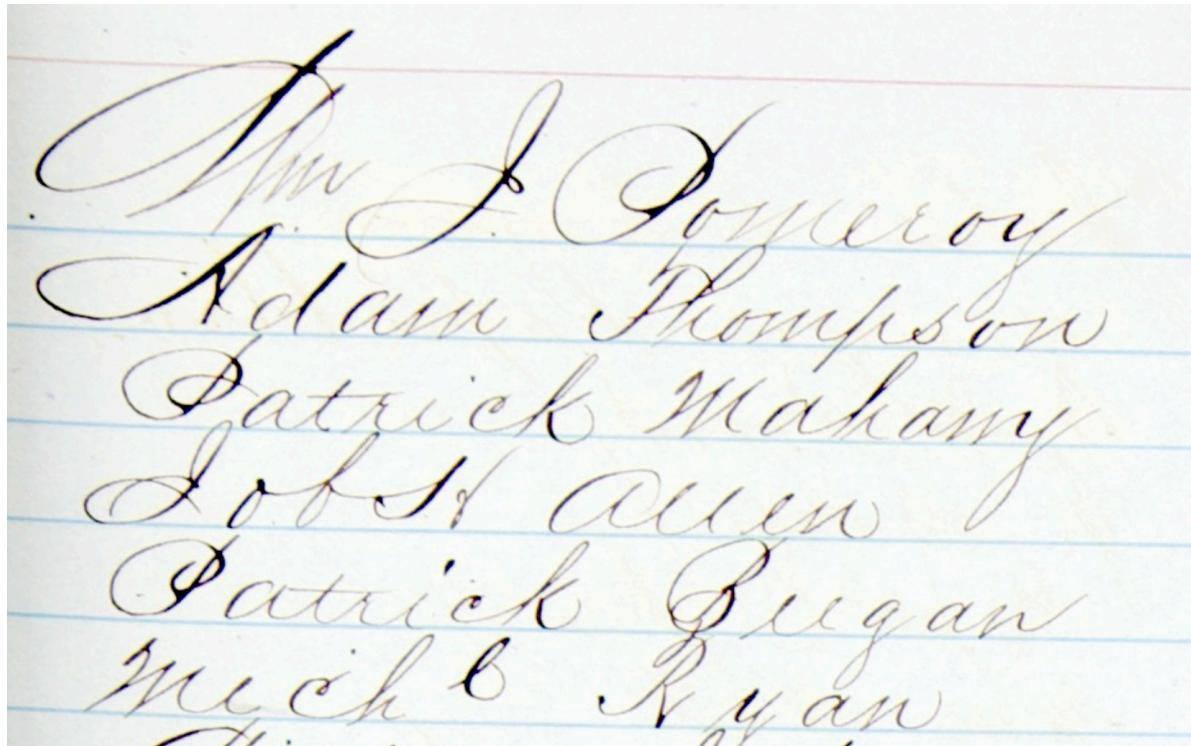
A photograph of a page from a handwritten payroll registry. The page contains six names written in cursive ink on lined paper. The names are: W. Ordway, Wm J. Pomeroy, James S. Harris, John Flynn, Job H. Allen, and Patrick Beegin. The handwriting is fluid and appears to be done in a single continuous motion.

Figure 5: Page 34 of the registry. January 1st, 1862.

Full Name	Number of Payrolls
Job H. Allen	28
Lucy Allen	28
Mary Dower	28
Michael Ryan	28
William J. Pomeroy	28
Louisa Emerson	27
Patrick Beegin	27
William Jofson	27
Eliza A. Allen	26
John Flynn	26

Count by payroll period

This is a count of the number of employees in the first 10 payroll periods. We can see a spike during the spring but a decline in the winter.



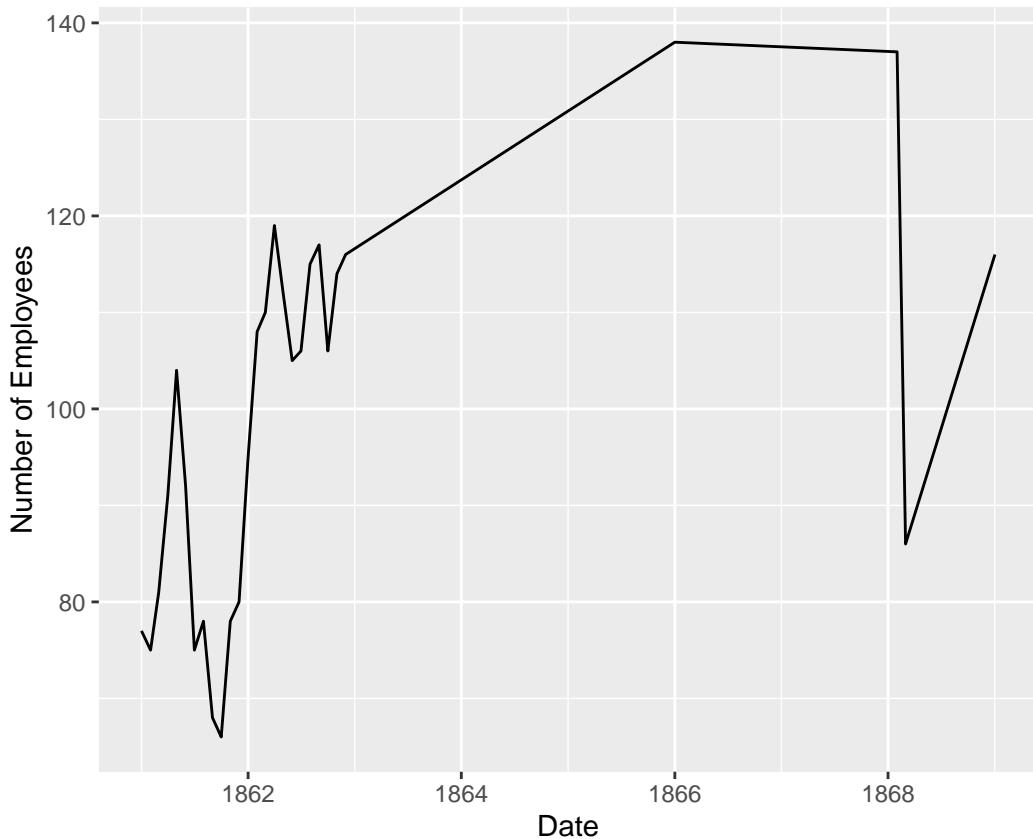
The image shows a list of names handwritten in cursive script on lined paper. The names are:

- Jm J Dwyeroy
- Adam Thompson
- Patrick Mahany
- Job St Allen
- Patrick Beglan
- Mch B Ryan

Figure 6: Page 105 of the registry. December 1st, 1863.

Date	Number of Employees
1861-01-01	77
1861-02-01	75
1861-03-01	81
1861-04-01	91
1861-05-01	104
1861-06-01	92
1861-07-01	75
1861-08-01	78
1861-09-01	68
1861-10-01	66

This graph displays the same information as the list above; the number of employees over time from 1861-1869. The graph looks like this because we did not transcribe payrolls from the years 1863-1865 and 1868-1868. This was due to the lack of time to complete the project.



How long did the employees work for?

We analyzed the total number of employees captured by partial transcription (an underestimate) that did or did not work at the paper mill after 8 years, (1869). Of all of the employees we recorded, 110 still worked at the paper mill in 1869. 394 employees did not make it to the end. For example, looking at the Allen family; Job, Eliza, and Lucy all made it to January 1st, 1869. Lyman and Mary were not related to the Allens. They also did not make it to 1869 as they only worked for one month each.

Full Name	First Appearance	Last Appearance	Years Worked
Allen, Eliza A.	1861-03-01	1869-01-01	7.838
Allen, Job H.	1861-01-01	1869-01-01	8.000
Allen, Lucy	1861-01-01	1869-01-01	8.000
Allen, Lyman	1862-03-01	1862-03-01	0.000
Allen, Mary	1866-01-01	1866-01-01	0.000

Survival analysis

Figure 7 is a survival analysis graph which estimates the probability that someone was still working X amount of time after their name first appeared. We can see that the probability that an employee returned to work just a month after their name was recorded was only 60%. This means that 40% of employees were no longer working the next pay period. Additionally, there was about a 50% turnover after 2-3 months. Over a two-year period, there was about a 75% turnover. But, those that made it past 2 years tended to last longer. Finally, only about 5% of employees made it the full 8 years.

It must be noted that there are limitations to these calculations. Not every payroll period was transcribed meaning the employees could have worked a bit longer. Furthermore, the transcriptions could have had errors so the names listed might not be exactly the same, which is what the calculations rely on heavily.

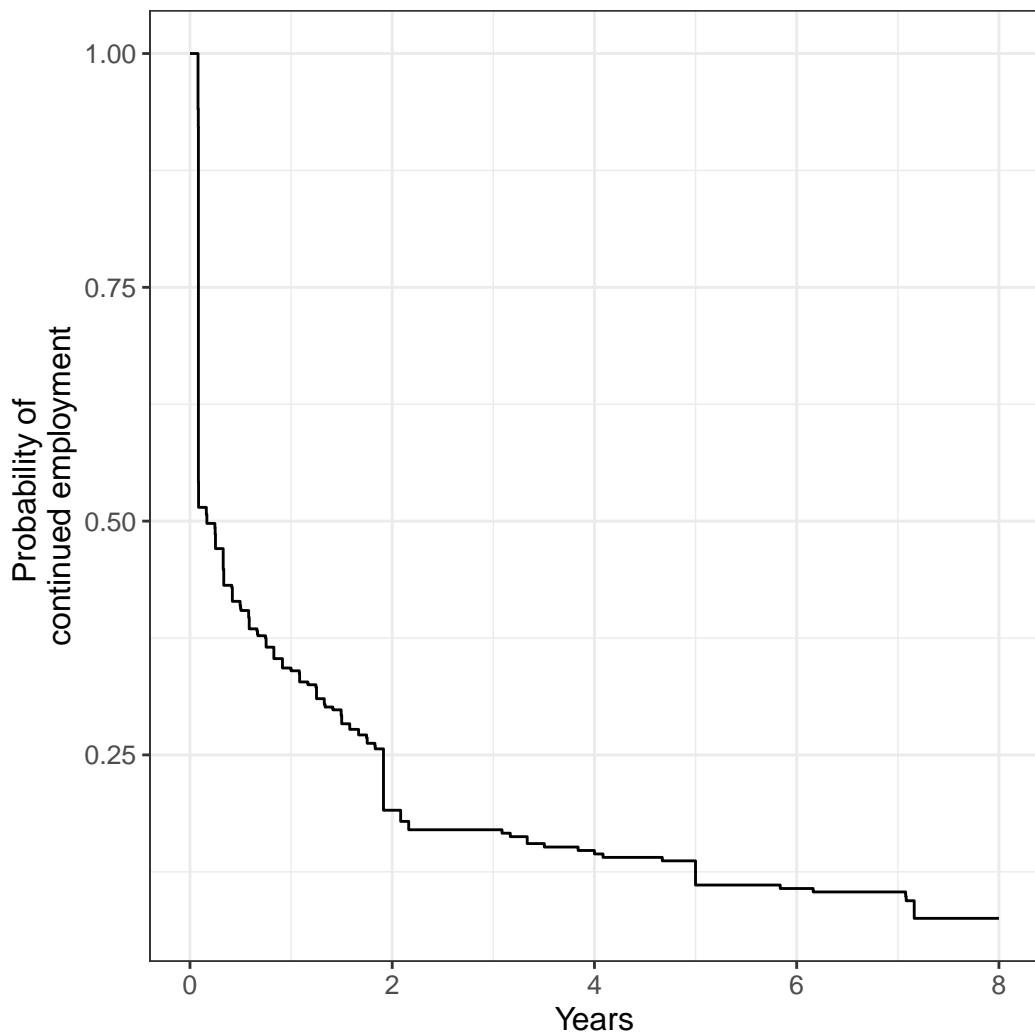


Figure 7: Survival analysis of employees of the Parsons Paper Company in the 1860's

Technical appendix

Transcribing the registry came with many unforeseen problems; spelling errors made by the accountant, abbreviations used inconsistently, and mistakes made by myself. To combat these errors and ensure as accurate a transcription as possible, we used Soundex.

This program identifies differences in letters between two words, or in our case, names. We can set the sensitivity of the differences by changing the number of different letters to look for. For example, Ellen Burke and Allen Burke have a one-letter difference. This match showed up when we ran the code and I checked back on my spreadsheet to see what page the two names were on. After that, I looked at that page of the registry and double-checked the transcription. Sometimes it was an error, while other times, the name still matched what I had originally written down. There were many more pairs of names than just Ellen and Allen Burke which made this process take longer. Yet, in doing so, we corrected many errors that took place during the transcription process.

	single	others
1	Burby, Mary	Burn, Mary
2	Burke, Allen	Burke, Ellen
3	Burke, Ellen	Burke, Allen
4	Burke, Ellen	Busk, Ellen
5	Burn, Mary	Burby, Mary
6	Burn, Mary	Hern, Mary
7	Busk, Ellen	Burke, Ellen
8	Cain, Sarah	Camp, Sarah
9	Camp, Sarah	Cain, Sarah
10	Connor, William	Corner, William
11	Corner, William	Connor, William
12	Cram, Lucia	Cram, Lucy
13	Cram, Lucy	Cram, Lucia
14	Donlan, Mary	Donley, Mary
15	Donley, Mary	Donlan, Mary
16	Donley, Mary	Doyle, Mary
17	Donley, Mary	Mokley, Mary
18	Dower, Catherine Powers, Catherine	
19	Dower, Kate	Powers, Kate
20	Dower, Mary	Powers, Mary

Finally, Table 4 provides a glimpse of the spreadsheet we have created and shared.

Table 4: The first rows of the spreadsheet provided to the History Room at the Holyoke Public Library. ‘Years Worked’ describes the total amount of time from an employee’s first appearance to their last. ‘No Longer Working’ tells us if the employee was recorded as working on January 1st, 1869; the last payroll we transcribed. ‘1’ means they were no longer working while ‘0’ means they were working on that date.

Full Name	First Appearance	Last Appearance	Years Worked	No Longer Working
Adams, Georgie	1868-02-01	1868-02-01	0.0000	1
Aiston, Charles	1862-09-01	1862-12-01	0.2491	1
Aiston, Mrs.	1862-11-01	1862-12-01	0.0821	1
Alarr, Peter	1861-01-01	1861-01-01	0.0000	1
Alden, Fred	1869-01-01	1869-01-01	0.0000	0
Alden, J.M.	1861-01-01	1868-03-01	7.1622	1
Allen, Eliza A.	1861-03-01	1869-01-01	7.8385	0
Allen, Job H.	1861-01-01	1869-01-01	8.0000	0
Allen, Lucy	1861-01-01	1869-01-01	8.0000	0
Allen, Lyman	1862-03-01	1862-03-01	0.0000	1
Allen, Mary	1866-01-01	1866-01-01	0.0000	1
Bach, Jacob	1866-01-01	1866-01-01	0.0000	1
Baggley, Thomas	1869-01-01	1869-01-01	0.0000	0
Baldwin, Catherine	1862-07-01	1866-01-01	3.5044	1
Baldwin, Kate	1861-11-01	1869-01-01	7.1677	0
Barnes, Lizzie A.	1866-01-01	1866-01-01	0.0000	1
Barrett, Catherine	1862-07-01	1862-12-01	0.4189	1
Barrett, J. Z. A	1866-01-01	1866-01-01	0.0000	1
Barrett, Mrs.	1866-01-01	1866-01-01	0.0000	1
Barry, Bridget	1869-01-01	1869-01-01	0.0000	0
Barry, Ellen	1862-10-01	1862-12-01	0.1670	1
Barry, M.	1869-01-01	1869-01-01	0.0000	0
Bates, Rosa	1862-02-01	1862-12-01	0.8296	1
Beaudeax, Jos	1868-02-01	1868-02-01	0.0000	1
Beaudeax, Jos Jr.	1868-02-01	1868-02-01	0.0000	1
Beauregard, Sarah	1868-02-01	1868-03-01	0.0794	1
Beegin, Eliza	1862-04-01	1862-04-01	0.0000	1
Beegin, Ellen	1862-03-01	1862-03-01	0.0000	1
Beegin, John	1861-01-01	1862-12-01	1.9138	1
Beegin, Mary	1862-07-01	1862-10-01	0.2519	1