

The Massillon Glass Works – Reed & Co.

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Two manufacturer's marks completely confounded Toulouse and the other early researchers. As examples, Toulouse (1971:432, 438-439) variously ascribed the R&Co logo to Roth & Co., a San Francisco liquor dealer or to the F.E. Reed Glass Co. (Rochester, New York) – but admitted he did not know who used the mark. Similarly, Toulouse (1971:362) suggested the Middletown Glass Works, Middletown, New York, as a possible user of the MGW mark, and, on the same page, admitted that he did not know who used it. Other early researchers were equally as confused.

Later researchers (e.g., Ayres et al. 1980:36; Whitten 2017) figured out that Reed & Co. (Massillon, Ohio) used the R&Co mark, but it was only recently that Bill Lockhart and Rob Riese independently concluded that the Massillon Glass Works used the MGW logo. The single letter “M” on export beer bottles, however, has been unexplained until this article.

History

Reed & Co, Massillon, Ohio (1881-1904)

Charles W. Reed, John Miller, Jr., and David Reed, moved from Clyde, New York, to Massillon, Ohio, in 1881 and established Reed & Co. by April of that year – probably to take advantage of the Ohio natural gas boom. By mid-November, the factory, called the Massillon Glass Works (as opposed to the operating firm, Reed & Co.), was in full production, making bottles, flasks, and fruit jars at a single six-pot furnace (Roller 1996).

Joseph Reed bought Charles Reed's interest on July 13, 1883, and Miller sold his share to the other partners in 1885. The plant made beer, soda, mineral water, and wine bottles as well as fruit jars – although beer bottles were its specialty (Ayres et al. 1980:36; Markham n.d.: [1]; Ohio Historical Society n.d.; Roller 1996; Toulouse 1971:30-31).

We are missing data for 1893, but it is clear that the plant managed to survive the “Panic” of that year – possibly due to Mexican sales. As early as 1898, Reed & Co. exported a significant portion of its output to Mexico. In July 1899, 25% of the plant’s output went south of the Border. The *Massillon Independent* predicted on July 10, 1899, that “the new factory of No. 3 as it is called, will be worked day and night like the others” by the next year.

Reed & Co. reported an interesting change in 1904, just before the Ohio Bottle merger:

This year the demand was for a larger number of pint and half pint bottles. The great bulk of the trade, however, consisted of quart bottles. Four sizes were made ranging from the half pint to the quart bottle. Shipments were made principally to St. Louis and Milwaukee, with a number of gross sent to Mexico (*National Glass Budget* 1904:9).

Although many sizes of bottles had been made since beer was first bottled, this marked a massive switch in the American market from a dominance of 26-ounce “quart” beer bottles to smaller sizes, eventually settling after Prohibition at the 12-ounce standard. Reed & Co. obviously catered to the larger breweries in the two major brewing centers of the U.S.

David Reed (n.d.) told a probably apocryphal story about his uncle:

Reed tested the temper of his bottles by dripping [*sic*] them on the brick floor—if they broke on impact they weren’t properly tempered. They could break after they bounced and still pass his test. The workers were paid by the piece—only for those that passed inspection.

Reed & Co. joined with the Edward H. Everett Glass Co., the Massillon Bottle & Glass Co., and the Wooster Glass Co. to form the Ohio Bottle Co. on October 11, 1904. The merger occurred to capture the exclusive license to use the Owens Automatic Bottle Machine to make beer and soft drink bottles. During August and September of 1905, the Ohio Bottle Co. (including the former Reed & Co. plant) became part of the American Bottle Co. merger (Lockhart et al. 2007:47-48; Scoville 1948:104; Toulouse 1971:31). A flood in 1913 closed the factory. Because it had been a hand shop, and mechanization was rapidly taking over the industry, the plant was never reopened (Ohio Historical Society n.d.; Kane 1978:84; Reed n.d.).

Massillon Glass Works

As noted above, the Reed & Co. factory was called the Massillon Glass Works, and the plant history deserves its own report. It was common in the 19th century and the very early part of the 20th century for glass houses to be listed by two names. The operating company – in this case, Reed & Co. – was named separately from the actual factory – the Massillon Glass Works (Figures 1 & 2). Increasingly, after 1900, both the firms and factories typically went by the company names, although workers frequently used nicknames for the plants.

The Reed & Co. factory went through three significant periods in the development of the firm, and each apparently affected the manufacturing marks used by the firm. Initially, the plant made bottles (apparently limited to wine, soda, and beer), flasks, and fruit jars at a single furnace with six pots. The February 1887 Sanborn Fire Insurance map still showed a lone furnace (Roller 1996). The use of such a small setup suggests a limited production between 1881 and at least February 1887, when only the single furnace was used to make at least four separate types of glass containers.

A letterhead, dated December 7, 1887, noted that the plant had two furnaces. The plant was still making “beer bottles, minerals & fruit jars.” Thus, the plant apparently installed a new furnace sometime during 1887. In June, 1888, the number of pots was noted at 13, but it is not clear whether that meant at both furnaces or just the new one. By September 1888, the

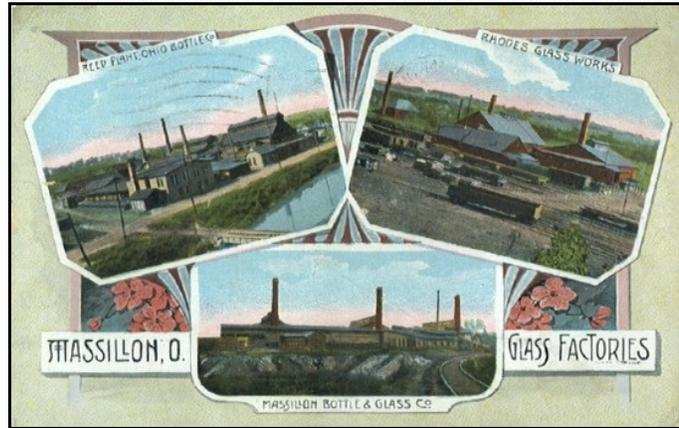


Figure 1 – Massillon glass plants - Reed & Co. upper left (Rob Reese)



Figure 2 – Glass crew – Reed & Co. (Rob Reese)

Commoner & Glassworker stated that Reed & Co. operated “1 house [Furnace No. 1] running entirely on beers, 8 pint shops & 4 quart shops, new house [Furnace No. 2] running full on groove ring jars, 2 half-gallon shops & 8 on quarts” (quoted in Roller 1997). This period is thus characterized by two furnaces.

The new furnace (No. 2) was rebuilt and greatly enlarged in 1889 to accommodate 56 pots; it was mostly making fruit jars at that point, but the concentration probably shifted soon to beer bottles. The last listing we have found for fruit jars was in 1891, although it was 1902 before an entry in the factory directories noted *only* beer and soda bottles – even though beer had been the mainstay of the firm since its inception (Roller 1997). According to the 1892 Sanborn map, the factory was still called the Massillon Glass Works, and it still operated two furnaces (Figure 3). The 1896 map, however, called the plant the “Massillon Holloware Glass Wks. - Reed & Co.” – although the plant still had two furnaces (Figure 4). While not definitive in itself, this *may* indicate that the MGW initials were no longer valid by 1896.

By 1897, however, the firm was listed as having two day tanks with eight rings and one continuous tank with 14 rings (Roller 1996). A second 1897 listing noted that Reed & Co. operated “three furnaces, 20 pots, on beer bottles” – although that listing almost certainly intended to describe the same production setup (*National Glass Budget* 1897:5). The *Massillon Independent* (12/26/1898) called the tanks three “factories” (Factory No. 1, No. 2, and No.3) in late 1898 and stated that the plant made “more beer bottles than any other manufacturing concern in the country.” The firm maintained 90 glass blowers. The newspaper added that “Reed & Company have also the distinction of having furnished the bottles which were filled with beer and shipped to the United States soldiers at Manilla by Milwaukee brewers.”

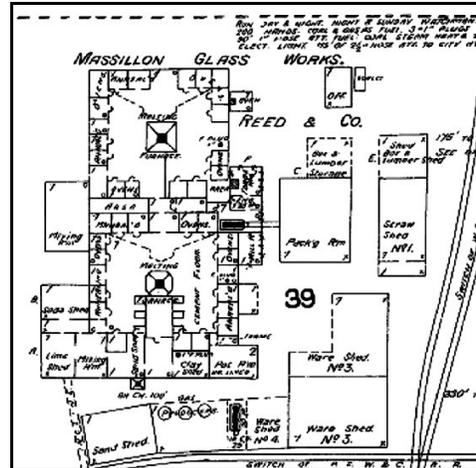


Figure 3 – 1892 map (Sanborn Insurance Map, 1892)

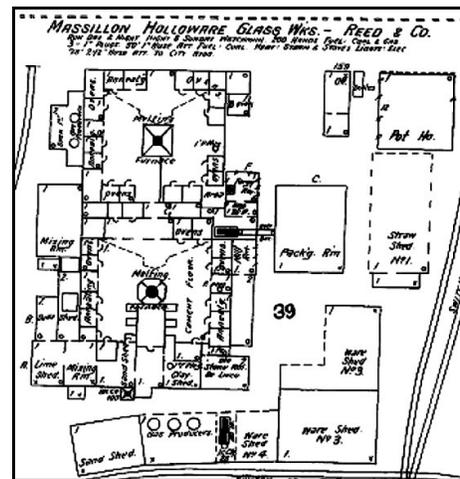


Figure 4 – 1896 map (Sanborn Insurance Map, 1896)

By 1899, the plant was listed with two continuous tanks operating 20 rings, but that shifted to three continuous tanks with 51 rings by 1900. That number remained steady until at least 1902 (*National Glass Budget* 1900:11; 1901:11; 1902:11). Although the plant continued to list “mineral water” bottles until at least 1902, the manufacturing emphasis was clearly on generic (i.e., “slick sided” or unembossed) export beer bottles. One of the plants may have ceased production around 1902. The *National Glass Budget* (1904:10) only discussed “furnaces, Nos. 1 and 3” in 1904. The number of furnaces (or factories) very likely has bearing on the identification of the marks in the next section.

Containers and Marks

It is almost certain that Reed & Co. used at least two manufacturer’s marks: MGW and R&Co. Each mark had more than one configuration. Several controversial issues are involved with the finer dating of these marks, and two of those issues (the 1885 patent and embossed numbers) are discussed below. Those are followed by a discourse on the marks. Additionally, even more controversial, an enigmatic group of “M” marks *may* have been used by the Massillon Glass Works during its earliest years.

It was difficult to discover a chronology that fit all the aspects of manufacturing techniques, historical information, and data derived from the logos and numbers embossed on the actual bottles. A thorough search of the literature on fruit jars failed to disclose a single entry for either MGW or R&Co. It is virtually certain that the plant did not emboss its logo on any fruit jars.

PAT 85

The Ayres researchers (1980:25) noted that the “PAT 85” embossing “presumably indicates some attribute was patented in 1885. An examination of the actual bottle itself indicates that it is identical in all respects to contemporary ones without this mark so that the registered attribute must have been something applied to the bottle.” On the next page, they listed 10 patents that were issued in connection with bottle stoppers in 1885.

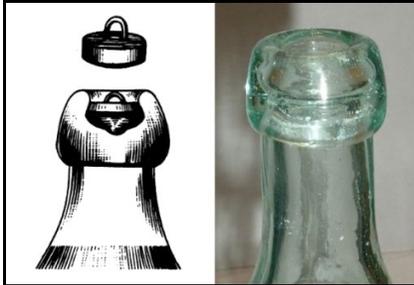


Figure 5 – Baltimore Loop seal (Lindsey 2017. eBay)

Two bottles in the David Whitten collection were embossed on their bases with “PAT 85” and had one-part finishes with an internal groove for the Baltimore Loop Seal.

This information makes it

virtually certain that “PAT 85” referred to the patent for the Baltimore Loop Seal. Bottles offered on eBay auctions also had the same patent mark associated with Baltimore Loop finishes.

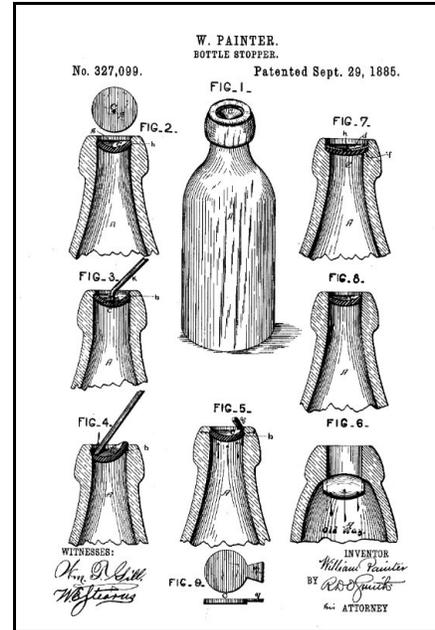


Figure 6 – Painter 1885 patent

The Baltimore Loop Seal consisted of a thick rubber disk that was inserted into a debossed groove on the inside of the bottle opening (throat). The seal was removed by pulling on a wire loop attached to the rubber (Figure 5). William Painter applied for the original patent on June 5, 1885, and received Patent No. 327,099 on September 29 of that year (Figure 6). On March 7, 1890, he applied for another patent to improve the seal and received Patent No. 449,822 on April 5, 1891. For more discussion about the Baltimore Loop Seal, see Lindsey (2017).

We have only discovered a few examples of bases with the PAT 85 mark (Figure 7):

“PAT (arch) / R&CO (horizontal) / 85”

“PAT 85 (arch) / R&CO (horizontal) / 14” (also 15, 17, 18, 19)

MGW in an arch at the top of the base with “6” in the center and “PAT 85” in an inverted arch at the bottom of the base

“M / 7” with “PAT” in an arch to the left and “85” in an arch to the right

“PAT / BOC / 85” [actually DOC, an engraver’s error – D.O. Cunningham, Pittsburgh – 1880-1931]

“PAT 85 / F. B. Co. / 1” [Findlay Bottle Co., Findlay, Ohio (1888-1893)]

“PAT / F.C.G.Co / 85” [Falls City Glass Co., Louisville, Kentucky (1884-1892)]

“PAT 85”

Clearly, “PAT 85” could not appear on a bottle prior to 1885. It is highly likely that the company only used the mold to make the bottle until it wore out; the Baltimore Loop seal quickly came into common usage, alleviating the need to specify the patent number. Reed & Co. probably ordered six molds (with numbers 14-19) to be made for the “PAT 85” basemark at the same time – hence the sequencing (see below).

Mold Numbers

A complete discussion of these numbers, even one applied only to beer bottle bases, is beyond the scope of this article. Lockhart (2010a) tested the hypothesis that these numbers, embossed on bases of export and other beer bottles during the ca. 1880-1900 period, were ordered sequentially by the glass houses – and found that explanation to be by far the most logical. Thus, a glass house would order molds to be engraved sequentially, probably as a quality-control device, creating an ordinal timeline based on the numbers.

M {letter} or M / {number} (1881-ca. 1887)

Toulouse (1971:341) noted that some “crudely made beers” also carried an “M” mark. Herskovitz (1978:8-9) listed quite a few beer bottle bases with “M” marks, although Wilson (1981:123) only noted a single example at Fort Union and another at Fort Laramie (Wilson

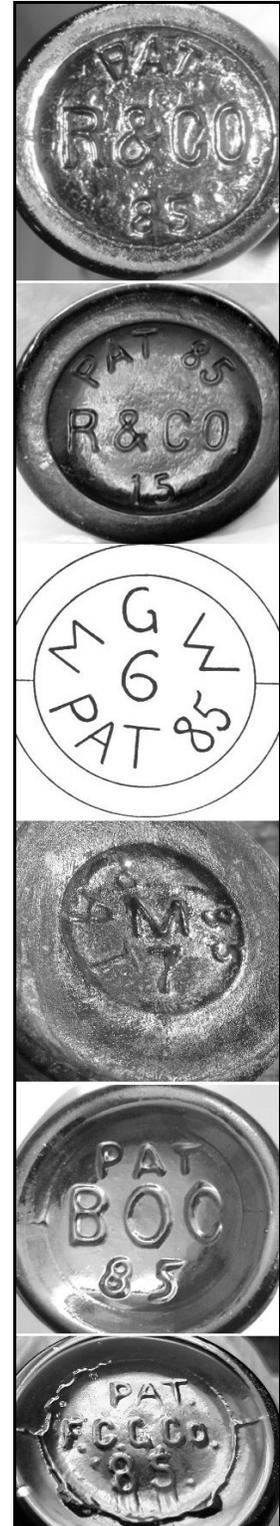


Figure 7 – PAT 85 bases

1960).¹ Lockhart (2009) recorded several examples at Fort Stanton. The Herskovitz marks were the same medium-sized “M” embossed on the base that were recorded by Lockhart (as shown in the photos from Forts Bowie and Stanton). These were made in two formats: 1) M above a single-digit number between 1-9; or 2) M to the left of a letter between A and D (Figures 8 & 9).



Figure 8 – M + numbers

When the Bottle Research Group recorded and photographed the containers from Fort Bowie, we discovered four complete bottles with the M / {number} configuration and two of M {letter} variation. All were on amber export beer bottles with one-part finishes. Base fragments with these marks found at Fort Stanton were all amber, and they were found in contexts composed primarily of export beer fragments. The one-part finishes and the export style were similar to bottles with MGW marks. The intriguing PAT 85 embossing may further tie these “M” marks to the MGW and R&Co logos (see discussion in the “PAT 85: section above).



Figure 9 – M + letters

¹ Wilson was also selective in his listing of bottles from Fort Union. The only example he included was embossed “M / 7” with “PAT” to the left and “85” to the right. There may have been other “M” marks at the fort. The database for Fort Laramie, however, appears to be complete.

The PAT 85 connection allows us to present a working hypothesis that the M / {number} configuration was used by the same company that used both MGW and R&Co – the Massillon Glass Works, operated by Reed & Co. Because the M / {number} marks and the M {letter} marks are generally found in the same contexts, we include the latter in the hypothesis as well. In fact, both the M / {number} and M {letter} patterns are generally found on the same sites as the MGW marks and *not* on sites where MGW marks are absent. Unfortunately, our sample is small.

Herskovitz (1978:11) presented evidence for another possible tie with the Massillon factory. He found bottles with paper labels from the Joseph Schlitz Brewing Co. that had basemarks of “R&Co” and “MC” but none from any other glass house. As noted in the history section, the Massillon Glass Works shipped a significant part of its production to Milwaukee, the home of Schlitz.

MGW (ca. 1887-ca. 1895)

Jones (1966:8) guessed that the MGW mark was used from 1850 to 1863 by the Missouri Glass Works at St. Louis. She continued with that identification two years later (Jones 1968:21) and illustrated the MGW / 2 mark as being found at Fort Union and Fort Custer, along with “MGW / 5” at Fort McKinney, Wyoming. Toulouse (1971:362) suggested the Middletown Glass Works, Middletown, New York, as a possible user of the MGW mark, ca. 1889. On the same page, he noted a second MGW mark as “User Unknown” but dated the logo “between 1880 and 1910 by technique.” He speculated that “there are advocates” for the Modes Glass Works, Ottawa, Illinois, and Cicero, Illinois, “but the use of that name by William F. Modes is questionable.” Ayres et al. (1981:25) found little further information on Middletown and had no other suggestions.

Beer Bottles

Wilson and Caperton (1994:70) recorded all beer bottle advertising in *The Western Brewer* between 1883 and 1890 as well as samples from issues between 1878 and 1882. The Massillon Glass Co. advertised in the journal in December 1881. Although there is a blank spot in their record during 1882, the Massillon Glass Works (note difference in name) advertised most

of 1883 and resumed its ads in February 1886. Those continued until Wilson and Caperton ceased recording the journal in December 1890.

Jones (1966:8; 1968:21), Herskovitz (1978:9), Ayres et al. (1980), Wilson (1960; 1981:123), Hull-Walski 1989:90, and Lockhart (2009) all reported export beer bottles with “MGW” embossed on their bases. These bases were found at Fort Union and Fort Stanton, New Mexico; Fort Custer, Montana; Fort Bowie, Arizona, and Ft. McKinney, Wyoming, as well as locations in Tucson, Arizona. The New Mexico Historic Bottle Club dig at Kingston, New Mexico, found a base with the equidistant “2” variation in a ca. 1880-1886 context (see below). Auctions at eBay have also included variations of the mark on both export and champagne style beer bottles.

Based on data from these sources, we may divide the MGW marks on beer bottles into four categories, one with a sub-category:

1. MGW horizontal across the center of the base, no numbers (champagne beer bottles)²
2. MGW horizontal across the center of the base with a “1” or “2” below the mark (champagne beer bottles)
3. MGW and the number “2” spread equidistant around the base like the cardinal compass directions, beginning on the left (or west) with “M” (export beer bottles) (see Figure 10)
4. MGW in an arch at the top of the base with a single digit number (3-9) in the center (champagne beer bottles [9 only] and export beer bottles)
 - 4a. Same but with PAT 85 in an inverted arch at the bottom of the base and “6” below the logo (export beer bottles)

All export beer bottles we have observed have a number accompanying the marks on the base. Several champagne-style beer and soda bottles have been found with “MGW” embossed

² The same style “champagne beer” style was used for both beer and soda bottles, so soda bottles of that style are included in this analysis.

on the base. Most of these only have the logo, but a few have the horizontal mark above the number “1” or “2.” Other bottles had “MGW” in an arch above a “9” (Figure 10). Most of these were made for breweries or soda bottlers in Ohio, but a few firms were also located in nearby Michigan.



Figure 10 – MGW bases

One eBay auction offered a blob-top, champagne-style beer bottle embossed “GEO SIMMONS BOTTLER OF FINLAYS SUPERIOR LAGER TOLEDO O” in a plate mold on the side, with “MGW (arch) / 9” on the base. Another, with the same basemark and number, was used by Anton Kopp, a Massillon, Ohio, brewer. This quart bottle is important because Kopp was only in business from 1894 to 1898. Since Kopp followed Paula C. Schimke (1893-1894) and was succeeded by John W. Schuster (1898-1900), these dates for Kopp are very accurate (Van Wieren 1995:283).

Two other slight variations characterize the MGW logos. One variation, probably the earliest, had a “G” with a serif like a “tail” extending down and slightly curved to the right. This variation appeared on Hutchinson bottles (see below) and champagne beer bottles with the horizontal variation of the logo. The “tail G” also appeared on the “MGW / 2” mark on export beer bottles.

The second variation had a “G” with no serif or a short serif extending to the left. All of these marks in our sample were arched, had no punctuation, and appeared with numbers 3-9. These were probably used during the later part of the MGW period.

Other Bottle Types

Two other types of bottles with the MGW mark have been reported. An emerald green pumpkinseed flask was marked on the base with the MGW logo (Antique Bottles 2004), but this is the only marked flask we have seen. Oppelt (2006) listed a blue Hutchinson soda bottle that was also marked with MGW, although he did not mention where the logo was located. The bottle was for a soda bottler in Ohio. At least three Hutchinson bottles have been offered on eBay. One had “M.G.W.” embossed across the center of the base. The other two had the same logo embossed on the heel. Hutchbook (Fowler 2017) listed ten Hutchinson bottles with MGW logos. Three were embossed on the heel with no numbers, and bases included no numbers, 1, 2, and 1 / MGW / G on the bases. We have not seen the heelmark on a beer bottle.

R&CO

Ayres et al. (1980) illustrated three major variations of the R&Co mark. Wilson (1981:123) showed numbers as high as 46 on the horizontal variation. Herskovitz (1978:9) did not distinguish between variations, but he listed the mark twice, possibly indicating that there were two variations at Fort Bowie. He recorded a total of 176 examples of the mark with associated embossed numbers ranging from 1-58 and letters from A-L. He finally included seven examples with PAT 85 below the logo and numbers between 14 and 18. Jones (1966:8) not only showed the logo across the center, she also drew it in an arch at the top of the base.

Herskovitz (1978:11) also noted that R&Co marks were found on bottles that contained paper labels from the Joseph Schlitz Brewing Co. He noted that Joseph Schlitz gained control of the brewery upon the death of August Krug, the former owner. The company began bottling its beer in 1877, so *these* bottles could not be used prior to that date. However, he also noted that Schlitz was one of the four most important western shippers of beer, citing Cochran (1948:71). Herskovitz also stated that one Schlitz bottle was marked “MC” on the base (also see “M” marks above).

In his Fort Laramie, Wyoming, database, Wilson (1960) listed ten R&CO marks in the horizontal configuration with numbers ranging from 11 to 45. He also noted two of the arched variation with numbers 16 and 19. This particular database is important because Fort Laramie

was open from 1849 to 1890. This timeframe suggests that the R&CO marks were in use by at least 1890.

A survey at Fort Stanton, New Mexico, found an amber export-style beer bottle marked “R&Co.” horizontally across the center. The finish was applied, indicating that the manufacturer used that finishing technique initially. This also suggests that the horizontal format was the first one used by the company. In addition, the only R&Co marks were found in post-1890 contexts (Lockhart 2009).

Our examination of the bottles in the Tucson Urban Renewal collection (Arizona State Museum) in 2006 disclosed all three of the major variations in the sample of 26 bottles, along with sub-variations illustrated by the Ayers researchers (1980). However, manufacturing styles allowed us to create a probable chronological order for the marks. All R&CO marks embossed across the center of the base had one-part applied finishes, a technique commonly used until ca. 1896 (see Lockhart 2006). The mark embossed in an arch at the top of the base (regardless of whether the “o” in “Co” was capitalized or not) appeared on bottles with both applied one-part finishes, tooled one-part finishes, and tooled crown finishes. The arched mark above a large, serif “C” was only found with the tooled crown finish. These marks are accompanied by single- or double-digit numbers or occasional letters. Marks that included the large “C” always enclosed two-digit numbers in our sample.

We have also seen a heelmark of R.&CO. embossed on an export beer bottle. Unfortunately, we did not record the type of finish on the bottle. However, this mark was likely used toward the end of the sequence, and it appears to be quite scarce. The variations of basemarks and the heelmark on export beer bottles may or may not contain punctuation and can be scaled in the following order (Figure 11):



Figure 11 – R&CO marks

1. R&CO across the center alone or with two-digit numbers below the mark

A. Same as main variant but three-digit number in smaller font *instead* of the usual two-digit number

2. R&CO across the center accompanied by PAT 85

A. PAT (arch) / R&CO (horizontal) / 85

B. PAT 85 (arch) / R&CO (horizontal) / {two-digit number}

3. R&Co in an arch with the letters spread out above a single letter located at the bottom of the base; both “R” and “Co” are positioned just above the cardinal compass positions.

4. R&Co in an arch with a single small dot (not always present) between the logo and a one- or two-digit number

A. Same but “CO” – may have a large or small dot between “R&CO” and the two-digit number

B. In some cases, a three-digit number beginning with “0” in smaller font was below the two-digit number; these are always the “CO” variant

5. R&CO in an arch above a large serif “C” with a two-digit number in “C” (sometimes accompanied by a dot above the number)

6. R.&CO. horizontal heelmark (ca. 1896-1904)

R&Co marks are almost exclusively found on generic export beer bottles, although the marks exist on at least three bottles made for Ohio brewers. One of the Ohio marks was on a pint champagne beer bottle (so the others probably are, as well). The base was embossed “PAT // R&CO // 85.” The brewer, J. Walker Brewing Co., was open from 1885 to 1912 (Van Wieren 1995:271). Another of these marks is on the base of a pint bottle used by Anton Kopp (1894-1898). As noted above, Kopp also used a quart bottle embossed “MGW / 9.”

Discussion and Conclusion

An interesting manufacturing characteristic of all beer bottles we have discovered with *any* of the marks discussed here is that they were consistently associated with one-part finishes. As discussed in Lockhart (2007), the two-part finishes were made to be used with cork closures, while the one-part counterparts were intended for Lightning closures. Although both types could be used for each closure, the intent of the industry was clear demarcation. Since these were in use as early as 1875, they were already commonplace when the Massillon plants opened in 1881. We have not discovered why the decision was made to limit the finish type.

M {letter} or M / {number} (1881-ca. 1887)

The connection between these two marks and the Massillon Glass Works is still tenuous and must be regarded as a hypothesis. Since these have not been previously identified as manufacturer's marks, they have rarely been reported. However, they were present at Fort Bowie (Herskovitz 1978:9), Fort Stanton (Lockhart 2009), Fort Laramie (Wilson 1960), and Fort Union (Wilson 1981:123). Since Fort Laramie closed in 1890, the mark was in use by at least that time. Of course, the marks were probably used earlier in each context.

Three main reasons exist for making the hypothesis that one or both of these two marks were used by the Massillon Glass Works. First, the ads noted by Wilson and Caperton (1994:70) show that the Massillon Glass Works made beer bottles and advertised them nationally in 1881 – the first year that the factory was open – and continued to advertise until at least 1890, the last year that Wilson and Caperton studied. Thus, the plant made the right type of bottles during the right time period.

Second, other glass houses made beer bottles during the period and had names associated with the letter “M” – such as William McCully & Co. or the Mississippi Glass Co. However, both of these and other “M” companies had well-documented manufacturer's marks. We have discovered no *other* mark for the Massillon Glass Works during the earliest period of the factory's existence (1881 to ca. 1887).

Finally, three tenuous connections are established. The first is that “M” marks and MGW marks are generally present on or absent from the same sites where export beer bottles are found. Second, marks of “M / 7,” “MGW / 6,” and several numbers used in conjunction with R&Co marks are all found with the “PAT 85” basemark, and these are consistently found on bottles made for the Baltimore Loop stopper, patented in 1885 (see Table 1). Finally, bottles with both “M” and “R&Co” logos were found at Fort Bowie with Schlitz paper label remnants, and Schlitz was located at Milwaukee, a noted destination for bottles made by the Massillon Glass Works and an established shipper of bottled beer to the western territories – where the forts were located.

Table 1 – PAT 85 Marks Associated with Massillon

Configuration	Date Range
“M / 7” with “PAT” in an arch to the left and “85” in an arch to the right	1885-1887
MGW in a downward arch at the top of the base with “6” in the center and “PAT 85” in an upward arch at the bottom of the base	1887-1889
“PAT (arch) / R&CO (horizontal) / 85”	1887-1890
“PAT 85 (arch) / R&CO (horizontal) / 14” (also 15, 17, 18, 19)	1890-1895

There are also similarities between and within the two configurations. Both the M {letter} and M / {number} basemarks were embossed in small, concave, post-bottom locations. Although the size of the post was not measured, each photograph shows very similar diameters. In addition, the letter “M” is virtually identical both within and between the two configurations. The “M” is always very wide with the same font, where the “V” shape in the center extends downward until it is on the same plane as the base of each “leg” (see Figures 8 & 9). Although they are not always apparent on worn bases, each M {letter} logo had full punctuation (i.e., M.A., M.B., etc.).

This evidence leads to a bit of speculation that can hopefully be tested as hypotheses in the future. Based on the assumption that both sets of codes were used by the Massillon Glass Works, each probably represents a single order of molds. The oldest were likely the ones embossed with “M” followed by the letters A, B, C, or D. These were probably used from the

inception of the company until ca. 1884, although they would certainly have remained in use until they wore out.

Because of the “PAT 85” accompanying one mark, the molds with “M” above a number were probably made about 1884 or 1885 and used until the second furnace was built in 1887. The numbers ranged from 1 through 9. The only bottles with either type of “M” mark that we have found were amber export beer bottles.

Hopefully, future research will discover new historical sources that will confirm or deny the use of these marks by the Massillon Glass Works. A more likely avenue of research, however, is finding beer bottles with “M” marks in contexts that can be tightly dated to the 1881-1887 period.

MGW (ca. 1887-ca. 1895)

The earlier attempts at identification of the MGW mark are relatively easy to debunk. The Missouri Glass Works (operated by the Missouri Glass Co.) made fruit jars, then became a jobber or distributor ca. 1865, far too early to have made the beer or Hutchinson bottles with the mark (see that section for more on the firm). As Toulouse noted, there was no Modes Glass Works, and the Modes Glass Co. had the wrong initials. The Middletown Glass Works in New York is also eliminated by the list of 14 soda bottlers and brewers in Ohio (mostly the northern part of the state and two in southern Michigan) and a study of New York beer bottles described below. A look



Figure 12 – Distribution map

at Figure 12 clearly shows that the distribution of bottles with the MGW logo is centered around northern Ohio and is nowhere close to Indiana, Missouri, or New York.

One of the contributors, Rob Riese, a collector in Massillon, has bottles with the MGW basemark that his father dug at two trash dumps less than 1/8 of a mile from the site of the Massillon Glass Works. This close provenience virtually assures the connection between the

MGW logo and Massillon Glass Works. Placing the mark in its historical context, however, requires a close look at the evidence.

Historical context also requires a split category: temporal and product. Although these are somewhat intertwined, the context of time is the least complex. Bottles with the marks were found at six Southwestern military posts (so far): Fort Stanton (1860s-1896), Fort Bowie (1862-1894), Fort Union (1863-1891), Fort Custer (1877-1898), Fort Laramie (1849-1890), and Fort McKinney (1878-1894). Since Fort Laramie closed in 1890, the bottles were almost certainly made prior to that date. The most logical date for the change, however, is 1887, when the plant opened its second furnace. It is interesting that, with no idea of the maker of the mark, Lockhart (2009) recorded the probable date range at 1887-1891, based primarily on provenience at Fort Stanton.

The end date for the mark is approximately set by a quart bottle made for Anton Kopp, a Massillon brewer in business from 1894 to 1898. The bottle base was embossed “MGW (arch) / 9.” With Kopp’s name embossed on the side, the bottle could not have been made earlier than 1894. Again the logical point of change was the opening of the third furnace sometime between 1892 and 1897. The name of the factory also changed during that approximate period. The 1892 Sanborn map still listed the plant as the Massillon Glass Works, but the name had become the Massillon Hollowware Glass Works on the 1896 map. The mark probably remained in use until ca. 1895, although all molds were certainly used until they wore out.

The product context is even more complex. The MGW logo has been identified with numbers from 1 to 9 and with no numbers present. Logically, bottles with the mark and no numbers are probably the oldest, although these may have been used throughout the period. Other mold numbers were probably added sequentially as they were needed.

MGW with no number and with numbers 1, 2, and 9 are associated with champagne beer (or soda) bottles and Hutchinson bottles. Numbers 2-8 were found on export beer bottles. The number 2 is the only one that was used on both export and champagne beer molds. This may have been an error in ordering or on the part of a mold engraver.

Finally, the marks appear in different configurations. The early marks were horizontal across the center of the base with no number or with numbers 1 or 2 (on Hutchinson bottles or

champagne beer bottles). The MGW / 2 mark on export beer bottles was only in a configuration with the letters/numbers spaced equidistantly around the edge of the base (like the cardinal compass points, with the “M” in the west position). The remaining marks, whether on champagne or export beer bottles, were embossed in an arch at the top of the bases, with the numbers in the center or just below. Two Hutchinson bottles, offered on eBay, had the MGW logo embossed on the heel, although seven of the ten reported by Fowler (2017) had basemarks.

It is thus likely that Furnace No. 1 made a variety of bottles, including most of the ones made with embossed labels. The MGW mark was probably used exclusively by Furnace No. 1 from 1887 (when the second furnace was placed into operation) until both the name change of the factory and the addition of the third tank ca. 1895. See Table 2.

Table 2 – MGW Manufacturer’s Marks

Configuration	Numbers	Products
Horizontal (base)	none	champagne beers & Hutchinsons
Horizontal (base)	1, 2	champagne beers
Cardinal points (around base)	2	export beers
Arch (base)	3, 4, 5, 7, 8, 9	export beers
Arch (base) / PAT 85 (inv arch)	6	export beers
Arch (base)	9	champagne beers
Horizontal (heel)	none	Hutchinsons

It is probable that the variations in MGW marks represent three different mold makers. The horizontal baseplates with no numbers and those with “1” and “2” were likely the oldest molds, and they may have all been made at one time, perhaps in 1887, or shortly thereafter, when the second furnace was built. The second order was likely sent to a different mold maker (or crafted by a different individual engraver), who used the “cardinal compass point” system along with the number “2” on the baseplate and made only a single mold for export beer bottles. Although bases with this mark are found on various sites, all of them were made from the same mold. These may have been made during the middle of the probable use period, ca. 1889 or slightly earlier.

The final style, an arched logo, was almost certainly the last, and this may have included more than one order from the same mold maker. These logos are accompanied by numbers ranging from 3 to 9. It seems more probable that this was a large mold order, and some of the molds continued to be used a bit later than others. The molds were probably made ca. 1890 or so, but some (e.g., the one for the Anton Kopp bottle from Massillon) were certainly used at least as late as 1894.

Middletown Glass Works

A single loose end remains to be tied. Lockhart (2010b) conducted a study based on a sample of 476 New York beer bottles listed and illustrated at the One Man's Junk website (Mobley 2010). If Middletown Glass Works had used the MGW mark, it should appear on at least some bottles in the vicinity of Middletown (ca. 40 mile northwest of New York City). However, not a single bottle in the sample was embossed with the MGW logo. Instead, 62.4% of the bottles had no embossed logos, numbers, or letters to help identify a manufacturer. An additional 8.4% were embossed only with numbers, and 5.9% of the sample had letters or letter/number combinations that were not diagnostic. In all, 76.7% of the sample was non-diagnostic – suggesting that the Middletown Glass Works, an identified producer of beer bottles, used no manufacturer's mark.

R&Co

Jones (1966:8) was the first to attempt to identify the R&CO mark, which she illustrated in both horizontal and arched formats. She wondered, "Ripley & Co? Could be" but noted that "Dr Toulouse says it is Reed & Co./B.F. I can't find that one (B.F. Reed)."

Two years later, Jones (1968:24) still designated Ripley & Co., Birmingham (Pittsburgh), Pennsylvania, as the user of the mark. She placed the company in business from 1866 to 1889 and noted that she had beer bottles with this mark topped by crown finishes, which she noted was proof that the company was in business later than 1889. However, Ripley & Co. became part of the U.S. Glass Co. in 1891, and the company primarily made pressed glass tableware. It is unlikely that the company produced bottles of any kind until the 1910-1917 period, and those were almost certainly specialized bar bottles.

Toulouse (1971:439) noted this mark but failed to assign a factory to it. He stated it was found “on export beers; 1880 to 1900 techniques.” Although confused, he continued trying. Toulouse (1971:432) discussed the mark in possible connection with F.E. Reed & Co., Rochester, New York, a long-standing company that made bottles from the late 19th century well into the 20th century.

Toulouse (1971:438-439) also attributed the R&Co mark to Roth & Co., San Francisco, California, and dated it 1879 to 1888. He stated, “If the bottle is a whiskey bottle of 1880-90 technique it is probably marked by the initials of bottle-user Roth & Co. who marketed several whiskeys and liquors in the San Francisco area in the 1880s.”

Roth & Co. *did* use an R&Co monogram, but these were only embossed on the body (side) of the bottles and are not likely to be confused with a manufacturer’s mark. We find it very unlikely that the R&CO mark on beer bottles could have been used by Roth & Co. – a whiskey distributor. Since Roth & Co. dealt primarily with liquor and was certainly not a brewery, their initials on beer bottles would be highly unlikely.

Kroll (1972:3) associated the mark with the Eugene P. Reed Co., Rochester (an earlier operating company that became F.E. Reed & Co.). This Reed, however, had its own marks and should not be confused with the Reed & Co. that became a part of the Ohio and American Bottle Companies.

Ayres et al. (1980:36) noted that “Reed & Co. [Massillon, Ohio] made beer bottles as early as 1888” and that beer bottles, made in green (aqua) and amber color, were the firm’s specialty. The making of beer bottles by Reed & Co. is supported by Walbridge (1920:84-85) who described a visit by Owens Bottle Machine Co. representatives to Reed in Massillon to show beer bottles made on the Owens machine to Reed officials. Walbridge described Reed as “a plant manufacturing beer bottles,” and Roller (1996) confirmed beer bottles as the plant’s primary product. Lehner (1978:67) called the company the “Reid Bottle Co.” and dated its operation from 1881 to 1904.

Based on the above evidence, the conclusion is simple. Only Reed & Co., Massillon, Ohio, had the correct initials and was noted for making beer bottles, especially in the quantity necessary to have produced the large numbers of export beer bottles that have survived in wide-

ranging contexts. The plant was in operation at the correct time period and made the correct product. The bottles dug at the Massillon plant by Rob Riese provide the “smoking gun” that eliminates all doubt.

Configurations

We have recorded the R&Co mark in four configurations, and each of these has its own temporal context. Although some of these overlap, each has its own distinct setting. See Table 5 for a chronology of all the marks.

R&CO – horizontal (1887-ca. 1895)

This configuration consists of R&CO (note the capital “O” in “CO”) embossed horizontally across the center of the base. Bottles in our sample were always accompanied by a number below the logo. Numbers ranged between 1 and 58. The mark was used almost exclusively on generic (i.e., paper labeled) export beer bottles. We have only been able to locate three exceptions, all on pint-sized champagne beer bottles, embossed on the sides with company names.

Since the mark was found on at least ten bottle bases found at Fort Laramie (1849-1890), it had to have been in use prior to 1890. Further, the mold numbers on the bottles were 36, 39, and 46. This suggests an earlier use. It is our contention that the horizontal R&Co mark was therefore in contemporary use with the MGW logo. It is thus likely that the horizontal R&Co mark was used in connection with the opening of Furnace No. 2 in 1887.

In addition, the horizontal mark is found in two formats with the 1885 patent for the Baltimore Loop seal. The first of these – PAT (arch) / R&CO. (horizontal) / 85 (inverted arch) – had no accompanying mold number. The second followed a pattern of PAT 85 (arch) / R&CO / {number} (both horizontal), with numbers ranging from 14 to 19. In our sample, these numbers are only on bases with “PAT 85.”

One of the champagne beer bottles was made for Anton Kopp, a Massillon brewer (discussed above) who was in business from 1884 to 1898. A virtually identical bottle was

embossed “MGW / 1” on the base. This suggests that the R&Co horizontal mark was used at least as late as 1895. We found no example of this configuration with crown finishes.

An unusual example was embossed “+ / R&CO / 53.” Not only was this the only example we have seen with a plus sign or cross, it is also the only horizontal example we found with a double-stamp on the base. The double stamp is an interesting phenomenon that occurs only on the bases of bottles blown into a two-piece mold. Along with the regular embossed logo and codes, there is a second set of initials or partial stamp that is slightly offset and much less distinct.

The stamp was apparently created by the gaffer (blower), when he pressed the gob of glass at the end of his blowpipe onto the baseplate of the mold, then lifted it before blowing the glass into shape. We have not discovered any specific references to this technique in the literature nor any reason for its use – although it may have been a method to center the glass in the mold. However, the double stamp appears on *some* mouth-blown bottles between ca. 1894 and ca. 1914. The technique was especially used during the ca. 1900-1910 period.

We have two photographs of bottles made in this specific mold, one excavated at Fort Bowie, the other, from an unknown context. Both are clearly made from the same mold, and each has the double stamp. However, the “ghost” of the embossing is offset differently in each example. This also supports a use of the mark – with one of the highest mold numbers in our sample – by at least 1894. Because the double stamp technique was unusual this early, the bottle was probably not made much earlier than 1894, the last year Fort Bowie was open.

R&Co – arch (ca. 1890-ca. 1902)

With very few exceptions, the arched variation of the R&Co logo occurred on generic, 26-ounce “quart” export beer bottles.³ A notable exception was auctioned at eBay. The bottle was a champagne-style amber pint embossed “R&CO (arch) / 5” on the base, with “NEW ORLEANS (arch) / BREWING ASS’N (horizontal) / NEW ORLEANS (arch) / LA. (horizontal)” in a plate on the front. The Louisiana branch of the New Orleans Brewing

³ These containers were actually advertised in glass house catalogs as 26-ounce quart bottles!

Association was open from 1890 to 1899 (Van Wieren 1995:126). The bottle is very unusual because of its size, style, and being sold so far from the typical vending area. It is probable that Reed & Co. ceased production of champagne-style bottles and special orders during the early years that this mark was in use.

This mark is found in two slight variations. The first (possibly the oldest) had “R & Co” (note lower-case “o” in “Co”) in an arch with the letters spread out to almost the compass points – with the “R” just slightly above the “west” position. This variation always had a letter embossed in the “south” position, although our small sample only includes “C” or “D.”

The other variation had the letters closer together, forming a tighter or smaller arch placed at the top of the base, with a number in the center. We have seen examples of a single mark accompanied by the letter “K.” Each mark had either an upper- or a lower-case “o” in “Co,” and the logos are found on bottles with either applied or tooled finishes.

Wilson (1960) recorded two examples of the arched mark at Fort Laramie, Wyoming. Since the fort closed in 1890, the logo *must* have been used at least that early. It is likely that the mark was originally used by Furnace No. 1 to replace the MGW molds, and the MGW logo was probably phased out, but the molds continued as long as they remained serviceable. The arched mark was almost certainly adopted by all three furnaces, probably soon after Furnace No. 3 opened ca. 1895.

Double stamped bases are fairly common on this configuration (although most do *not* exhibit this phenomenon), and some of the marks are found on bottles with crown finishes. This mark was probably being phased out ca. 1902, although some of the molds were likely still used until the merger that ended the firm in 1904.

R&Co or R&CO – arch above a large, serif “C” (ca. 1902-1904)

Much less common than the earlier two configurations, this was almost certainly the last variation to be used. Unfortunately, we have no idea about the meaning of the large, serif “C” below the logo. However, bottles with this mark were used in the construction of the Tom Kelly Bottle House, Rhyolite, Nevada, built in 1906.

In addition, one example was embossed “R&CO / 88 / 087” – a numbering system used by the succeeding company, the American Bottle Co., in conjunction with the AB-ligature plus Co. mark and the ABCo logo. These two characteristics almost certainly place the mark as the last one in the sequence. The logo was clearly used until the merger that created the Ohio Bottle Co. in 1904 (followed by the American Bottle Co. in 1905).

R.&CO. heelmark (ca. 1896-1904)

We have only discovered a single example of a beer bottle with the R.&CO. heelmark. Unfortunately, we recorded the mark very early in our research, and we did not note the important details of manufacture or use. We are assuming that the mark was used during the ca. 1896-1904 period. Heelmarks were often used by beer bottle plants when the brewery wanted its initials embossed on the bases. Thus, these were often used concurrently with basemarks. See Table 3 for a chronology of Massillon Glass Works and Reed & Co. marks.

Table 3 – Chronology of Manufacturer’s Marks for the Reed & Co. Factory

Mark	Date Range	Furnace	Products
M {letter}	1881-1887	1	export beers
M / {number}	1881-1887	1	export beers
MGW	1887-1895	1	champagne beers & sodas; Hutchinsons – overrun export beers
R&Co (horiz.)	1887-1895	2	export beers; very occasionally on champagne beers
R&Co (arch)	1892-1902	all	export beers; rarely on champagne beers
R&Co (arch over C)	1902-1904	all	export beers
R&Co (heel)	1892-1904	all	export beers

Conclusions

This study clearly identifies the two major marks used by Reed & Co. at the Massillon Glass Works – MGW and R&Co. Both of these had notable variations, several of which are

closely datable. In addition, we make a case for the use of two other marks – M {letter} and M / {number} as being early marks used by the Massillon Glass Works on export beer bottles.

Future research should center around the hypothesized earlier marks. This study was hampered by a lack of precise contexts for these bottles. Documentary evidence would also be helpful, but finding such early sources is, unfortunately, unlikely. In addition, larger samples of complete bottles with the other marks and/or more tightly datable contexts would help to more solidly place them within a chronology.

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