



By Cara Zimmerman

The Construction of a

Carousel

WILLOW GROVE PARK
CAROUSEL
Photographer unidentified
Willow Grove,
Pennsylvania
1910
Sepia-tone photograph
(right), and
hand-painted enlargement
for "Wm. F. Mangels Co.
Carousell Works Catalogue
No. 7," 1913-1914



Clues to an Industry from the Frederick Fried Archives

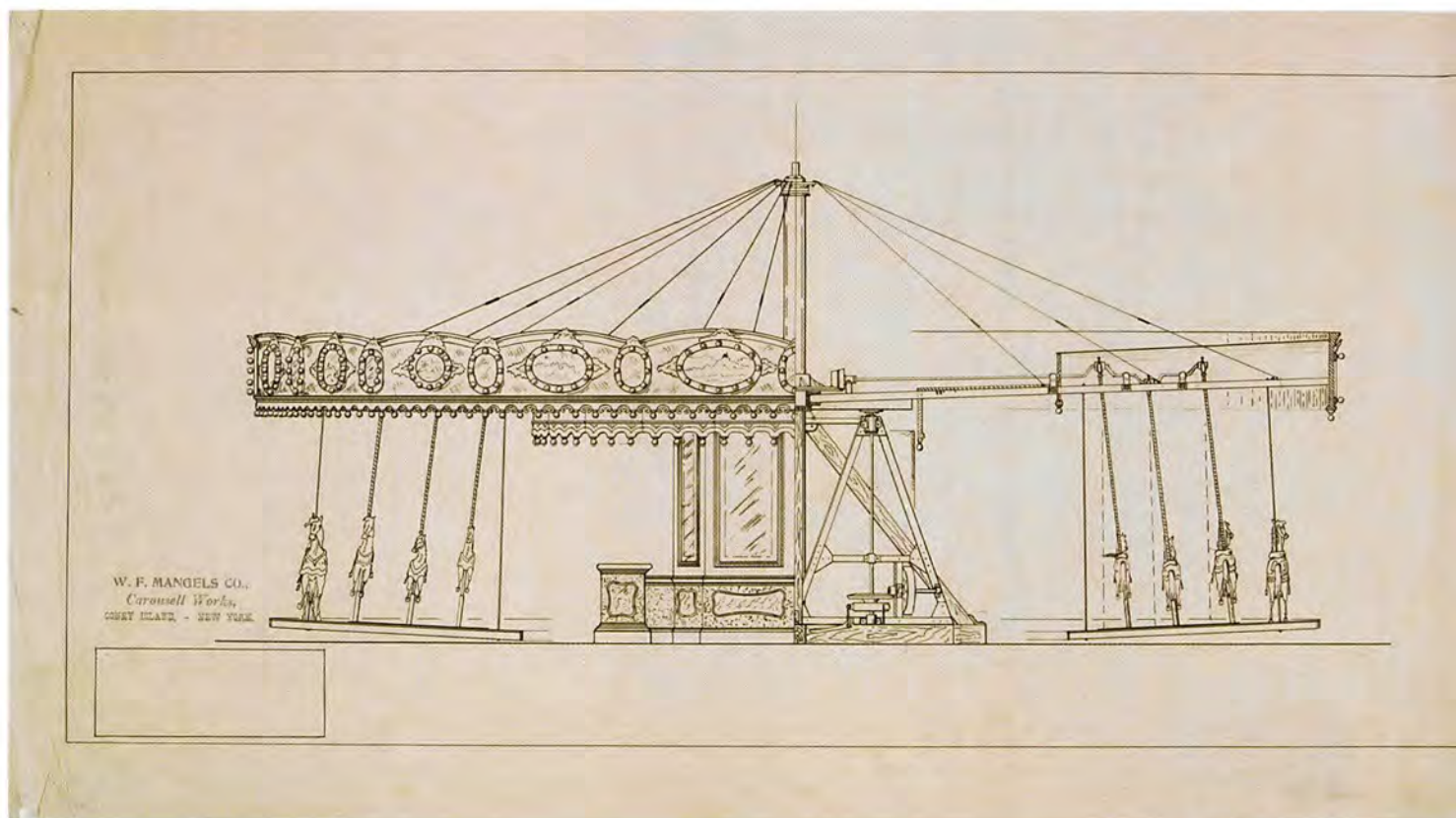
William F. Mangels (1866–1958) is an established name in amusement-park literature. His factory, the Wm. F. Mangels Company in Coney Island, Brooklyn, New York, invented and manufactured many attractions in the first half of the twentieth century, including popular rides such as the Whip and the Tickler, and a major part of the company's business was attributed to its revolutionary approach toward carousel construction. Beyond patenting the internal mechanisms with which carousels are still constructed today and working with some of the most established craftsmen of his time, Mangels was an innovative and talented businessman. A vast number of carousels are attributed to his factory over a fifty-year period, with twenty-three of them still in use today.¹ Further, an examination of his business model offers great insight into the world of early twentieth-century industry, communications, and art. The ledgers, blueprints, sketches, and photographs that survive within the Frederick Fried Archives offer a unique glimpse into Mangels's successful company.

After founding the American Museum of Public Recreation at Coney Island in 1927, Mangels contributed many of his workshop's documents and materials to the institution. The museum closed in 1955, and Vermont-based historian Frederick Fried (1909–1994) acquired a portion of the collection:

Bought all remains of archive of the / Wm. F. Mangels Carousel Works / and some remains of objects, etc. / from his (Mangels)

Maintained by Fried until his death in 1994, the archives are now kept, in part, at Ricco/Maresca Gallery in New York, where they occupy several flat files, numerous boxes, and countless shelves. The archives are unmatched in scope. Though many of the three-dimensional objects were auctioned off by Sotheby's upon Fried's death, the remaining drawings, watercolors, blueprints, and photographs offer a wonderful glimpse into the visual whole of the amusement-park experience.³ Importantly, the archives still

requirements. With the aid of this ledger, it is possible to track the process of a carousel's creation from the initial order to its use as a promotion for Mangels's services. The story of the construction of the Willow Grove Park carousel in Willow Grove, Pennsylvania, just outside Philadelphia (illustrated on pages 52 and 53), gives a sense of the business as revealed by the ledger and the artistry as seen through blueprints and photographs that the Mangels factory employed to please its clients nationwide.



Museum. / Also original Coney Island blueprints, of historic Luna Park, / Dreamlands original architects' / drawings of Dreamland & / countless others—all of / the building of Coney Island²

The Fried Archives, which also contain the histories and remnants of many other Coney Island attractions, show the extent and range of the work created by the Mangels shop between the late 1800s and the mid-1900s.

hold the Mangels Company's address books, purchase orders, catalogs, and newspaper clippings, all of which allow a contemporary audience to understand the business behind the painted ponies.

One particular ledger provides a record of Mangels's clients and sales between 1908 and 1915. The book reveals intricate details of some jobs yet little information on others. At times, it offers just enough material to get a sense of a client's desires and

■ ■ ■
The Willow Grove Park carousel, built for the American Amusement & Construction Company (later Ryan Amusement Company) under president Thos. J. Ryan in 1910, first appears in records as an order placed on January 27, 1910:

Jan 27 1910 / To contract to build (54 ft. Diameter) / Combination Galloping horse Carousel / as per

CAROUSEL DRAWING
Wm. F. Mangels Company
Coney Island, Brooklyn,
New York
n.d.
Ink and pencil on paper
15 3/4 × 29"

agreement 12,000.00 / . . . to be delivered & set up complete / on or before May 25th 1910 / Penalty \$100.00 per day for / each day after above date / allowance over 8 days in transit⁴

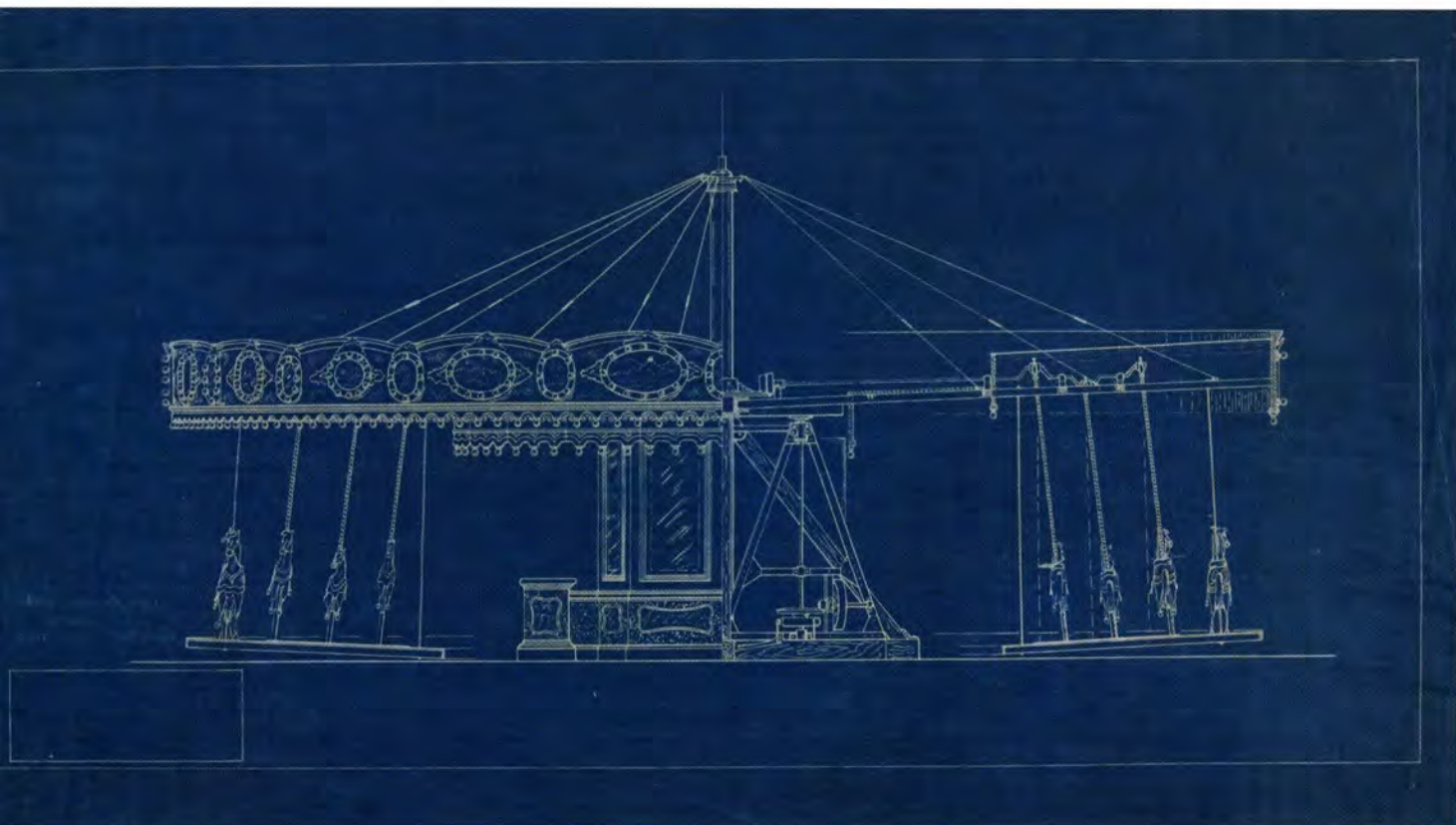
The detailed statement of price, delivery date, and transport demonstrates a focus within the ledger on logistical and monetary aspects of the construction and installation process, with little regard for the artistic requirements for the particular piece. The overall

and below) are for a similarly styled permanent four-row carousel, and the rounding board (the decorative panel circling the upper rim of a carousel) features the same pattern of mirrors and frescoes. Indeed, the panels on the center pavilion depicted on the blueprint are very similar in shape and style to those on the Pennsylvania carousel, for which, at one point in time, a blueprint probably existed.

The archives contain various blueprints and drawings of carousels, ranging from utilitarian technical drawings,

frescoes. These scale drawings work in a lyrical way, clearly intended to provide a glimpse of the outcome of the project rather than solid engineering guidelines—to convey the *feel* rather than the *how*. They allowed each participant in the construction process—the engineers, carvers, and painters—to understand not just the plans for his particular job but also the objective of the entire finished piece.

It can be inferred that these detailed drawings were not necessary to the step-by-step completion of the



CAROUSEL BLUEPRINT
Wm. F. Mangels Company
Coney Island, Brooklyn,
New York
n.d.
Cyanotype
15 3/4 x 29"

emphasis appears to have been on a timely delivery, as the client clearly wanted the carousel for the upcoming summer season.

Blueprints were likely created for each carousel order, and some were perhaps circulated among clients as well as craftsmen. The extant blueprints in the Fried Archives are not direct matches of the Willow Grove Park carousel but contain many of the same elements. One early drawing and its corresponding blueprint (opposite

detailing specific parts of a mechanism, to aesthetically focused full-carousel renderings likely intended for the clients' eyes. Examples of the former bear penciled figures and diagrammatic markings that show its use over the years. The latter are carefully executed, artistic pen-and-ink drawings that evoke a feeling of beauty and movement through their detail, showing both the grace of the internal carousel mechanism and the skill required to create the carved animals and painted

carousel. Carousel makers gradually outsourced blueprint drawings, and the depictions of the horses became more and more abstracted and simplified. A comparison between the c. 1910–1915 Mangels overhead blueprint and an overhead drawing created in 1974 for a Kansas manufacturer (see pages 56 and 57) demonstrates that such an artistic rendering was not necessary, yet the earlier drawing was clearly a product of great care and detail—each horse has been drawn

with precision, and no two are exactly alike. The outside standers are larger than the inner horses, and some show indications of decorative adornments. In contrast, the 1974 drawing does not even depict horses. Instead, a boatlike shape, indicating simply the presence of an object rather than the object itself, represents each animal.

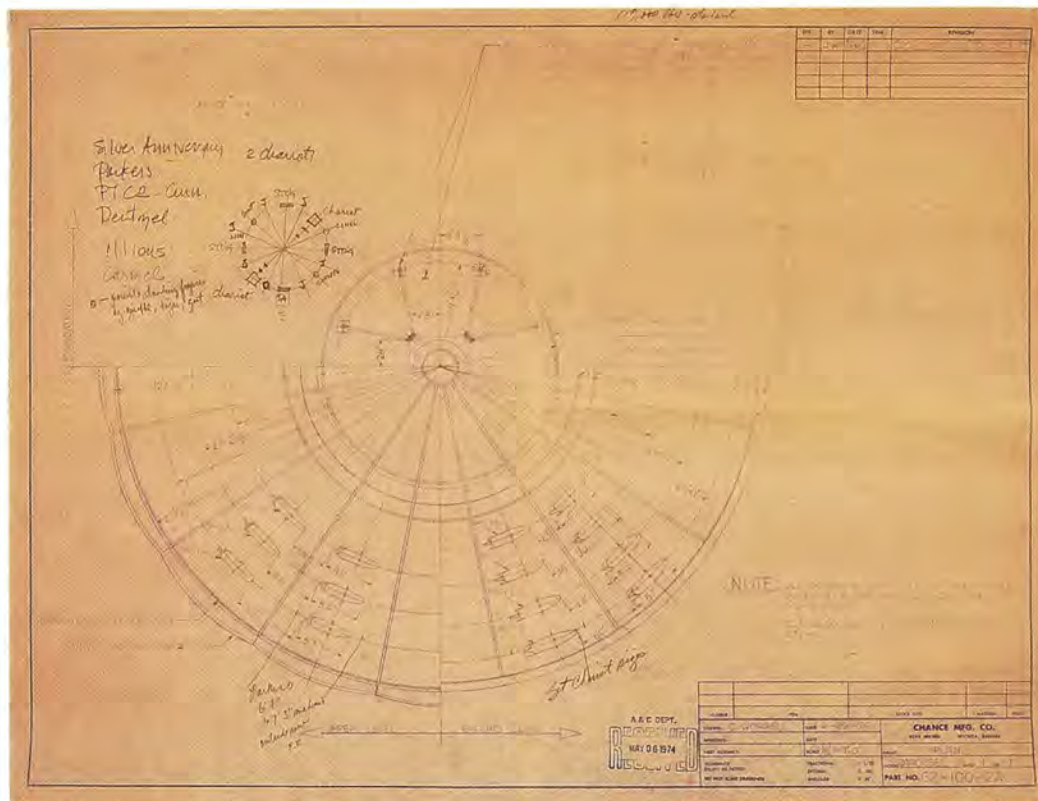
While the Mangels factory created the mechanical components of their carousels, they outsourced woodcarving and fresco painting to artisans in their roster. For the Willow Grove Park carousel, Mangels collaborated with the renowned carver Marcus Charles Illions, who by then had established himself as a principal artist within the field.⁵ In 1909, Illions had formed M.C. Illions and Sons with his four sons and his daughter in the venture; the six family members, along with other relatives who assisted them, would have been responsible for carving and painting all of the horses and chariots on the Willow Grove Park carousel.⁶ Illions took great pride in his horses and was known for staying ahead of carving trends and techniques. By having Illions and Sons work on this carousel, Mangels and the client were assured that the carvings on the finished product would be magnificent and unusual.

Mangels's records on the American Amusement and Construction Company (as noted in the ledger) also offer a clue as to who may have erected the carousel once it was transported to Willow Grove Park. While a list of construction laborers is not noted for any of the jobs completed when the carousel was installed in 1910, the 1911–1912 roster of workers included an overlapping cast of characters, including the recurring names Bartolo, Rudolph, and Ward (as well as more common names such as George, Chris, Frank, and Tony, which perhaps also—though not as definitively—indicate overlap).⁷ The information in the ledger does not specify whether these same people were involved in the engineering process at the Mangels factory or were employed solely to install the finished product.

The archives contain no note of delays in the delivery of the Willow Grove Park carousel, implying that

the entire process, from blueprint to carving to painting, took less than four months. After its completion, Mangels clearly considered this to be one of his finest carousels to date, as he used an image of the installed piece as an illustration of the most extravagant carousel his factory could offer, the Combination Palace Galloping Horse Carousel, in the “Wm. F. Mangels Co. Carousel Works Catalogue No. 7” (circulated between 1913 and 1914). Described as “the highest

could not be depicted from the distance required to capture the entire structure. In addition, because of the long exposure necessary at the time, it would have been likely that some of the elements in the photo would appear blurred, as the people pictured on the horses could not be expected to stay entirely still. So, in order to prepare the photo for illustration in the catalog, a slightly cropped enlargement was painted over with a finely detailed, outlined wash drawing (see pages 52 and 53). While all the main elements



**OVERHEAD CAROUSEL
DRAWING**
J. Worrell, Chance Mfg.
Co.
Wichita, Kansas
1974
Ink and pencil on paper
16¼ × 21¼"

type of mechanical construction . . . insuring durability and a large margin of safety,” this carousel was promoted not only for its mechanical reliability but also for its aesthetics: “the decorations are most elaborate. . . . The horses are . . . highly finished and decorated.”⁸

As remarkable as the Willow Grove Park carousel was, a photograph could not be used for promotional purposes without alteration. Due to the architecture of the building in which the carousel was housed, the full height of the rounding board

of the carousel remain the same, the artist who touched up the original image carefully removed blurred details and unsightly patterns that would distract from the horses and sharpened dark and light highlights for effect. Most dramatically, he painted in part of the top portion of the rounding board that was obscured by the ceiling in the original photo. In this same catalog, Mangels also listed testimonials from satisfied clients, stating the durability of the mechanics and the business the carousels brought in. He

not only showcased his finest work but also focused on the positive responses inspired by the reliability and universal appeal of his amusement-park products.

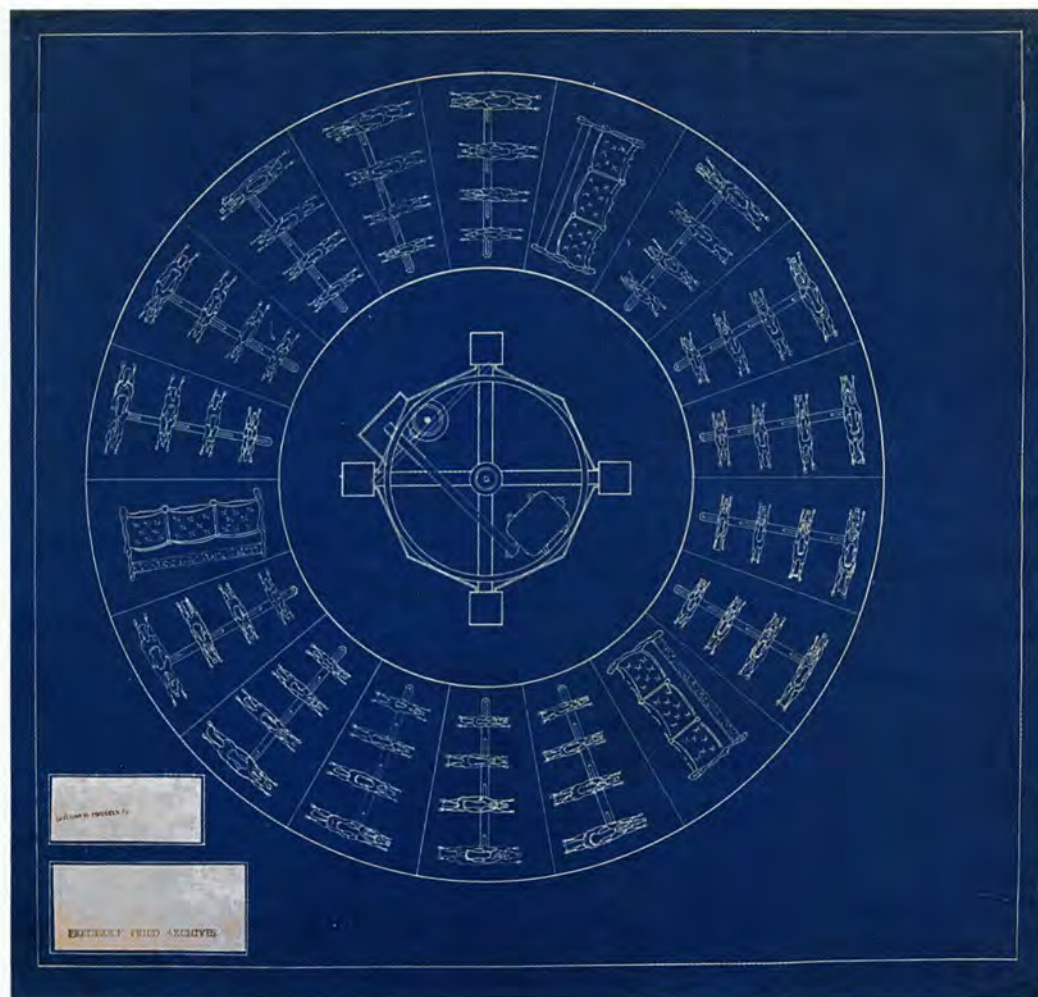
The craftsmanship of the Willow Grove Park carousel, as well as the published promotional material, brought new business to the factory. The ledger documenting the Willow Grove Park order also lists a 1911

seen the Willow Grove Park carousel firsthand (which could have been possible, given the proximity of the two amusement parks). Regardless, Mangels's business model is clear: By creating an artistically dynamic product, delivering it on time, and promoting it following construction, he grew his company's reputation for reliability and fine craftsmanship and thus brought in new orders and more

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Notes

- 1 "The NCA Census of Operating North American Carousels," National Carousel Association, www.nca-usa.org/NCAcensus.html (accessed Aug. 10, 2007).
- 2 This quote is handwritten on the inside front cover of a Mangels ledger labeled "Name and address book of suppliers, etc. Wm. F. Mangels Company W. 8th St. Coney Island" (Frederick Fried Archives, courtesy Ricco/Maresca Gallery, New York).
- 3 Frank Maresca, interview by the author, March 30, 2007.
- 4 Mangels client ledger, 1908–1915, pp. 274–275, Fried Archives, op. cit.
- 5 That Illions carved this carousel is established by Fried's handwritten notes within his archive, as well as by the National Carousel Association, which notes that some of the Illions horses originally created for the Willow Grove Park carousel are currently on other, still-functioning carousels; see www.nca-usa.org/census/census-CLA.html (accessed Aug. 10, 2007).
- 6 Charlotte Dinger, *Art of the Carousel* (Green Village, N.J.: Carousel Art, Inc., 1984), p. 129. Other sources, such as the website of the International Museum of Carousel Art, www.carouselmuseum.com/business.html (accessed Aug. 10, 2007), claim that M.C. Illions and Sons was founded in 1908. The exact time period of the Illions/Mangels collaboration is debated. In *Painted Ponies: American Carousel Art* (Millwood, N.Y.: Zon International Publishing, 1986), p. 125, William Manns, Peggy Shank, and Marianne Stevens state that Illions had left the Mangels shop by 1909, while Fried argues in *A Pictorial History of the Carousel* (New York: A.S. Barnes, 1964), p. 101, that their collaboration was only just beginning at that time. Records for this carousel indicate that Illions carved for Mangels in 1909 and 1910.
- 7 Mangels client ledger, op. cit., pp. 276 and 366.
- 8 "W.F. Mangels Co. Carousell Works Catalogue No. 7" (1913–1914), p. 4, Fried Archives, courtesy Ricco/Maresca Gallery, New York.
- 9 Mangels client ledger, op. cit., p. 388.



OVERHEAD CAROUSEL
BLUEPRINT
Wm. F. Mangels Company
Coney Island, Brooklyn,
New York
c. 1910–1915
Cyanotype
24 1/8 x 23 3/8"

order placed by Joseph Geeller for Hollywood Park in Baltimore:

1911 / Sept 22 / to Agreement /
to Build Carousell / (similar to
Willow Grove Park Phil.) / . . .
11600.00⁹

It is unknown whether this client placed his order after having studied the factory catalog or after he had

innovation-seeking customers from around the country.

Though the Willow Grove Park carousel has been dismantled and the horses dispersed among other still-active carousels and private collections, the drawings, blueprints, ledgers, and photographs from the Frederick Fried Archives have lent life to this Mangels and Illions collaboration long after it stopped spinning. ★