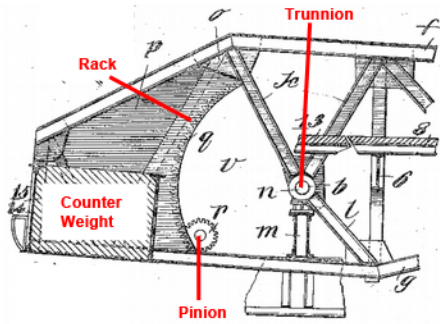


HOW DO THEY WORK?



Rack and pinion drawing from von Babo's 1911 patent.

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THE CHICAGO LOOP BRIDGES

1. N. LAKE SHORE DR. (FRANKLIN DELANO ROOSEVELT MEMORIAL BRIDGE -- 1937)
2. N. COLUMBUS DR. (WILLIAM P. FAHEY BRIDGE -- 1982)
3. N. MICHIGAN AVE. (DU SABLE BRIDGE -- 1920)
4. N. WABASH AVE. (IRV KUPCINET BRIDGE -- 1930)
5. N. STATE ST. (BATAAN CORREGIDOR MEMORIAL BRIDGE -- 1949)
6. N. DEARBORN ST. (1963)
7. N. CLARK ST. (1929)
8. N. LA SALLE ST. (MARSHALL SULOWAY BRIDGE -- 1928)
9. N. WELLS ST. (1922)
10. N. FRANKLIN ST. (1920)
11. W. LAKE ST. (1916)
12. W. RANDOLPH ST. (1984)
13. W. WASHINGTON BLVD. (1913)
14. W. MADISON ST. (LYRIC OPERA BRIDGE -- 1922)
15. W. MONROE ST. (1919)
16. W. ADAMS ST. (1927)
17. W. JACKSON BLVD. (1916)
18. W. VAN BUREN ST. (1956)

BEAUTIFUL BRIDGES

The goal of 1909 Plan of Chicago was to create a beautiful city. For bridge design, this meant more attention was paid to bridgehouses, railings, staircases, and visible structural support.

All structural support below deck is best.



BEST: Deck Truss -
Deck on top chord

(Example at Adams St, Map # 16)

This is not always possible. "Ugliest" support you will see is:



UGLY: Through Truss -
Deck on bottom chord

(Example at Wells St, Map # 9)

The compromise is to place the deck somewhere in the middle:



GOOD: Rail Height Truss -
Top chord ~ 3 ft. above deck

(Example at Wabash Ave, Map #4)

While the direct impact of the Plan ended in 1930, later bridges used these basic ideas.



Deck truss at Adams St bridge (Map #16)

The bridge is a balanced horizontal seesaw with unequal arms.

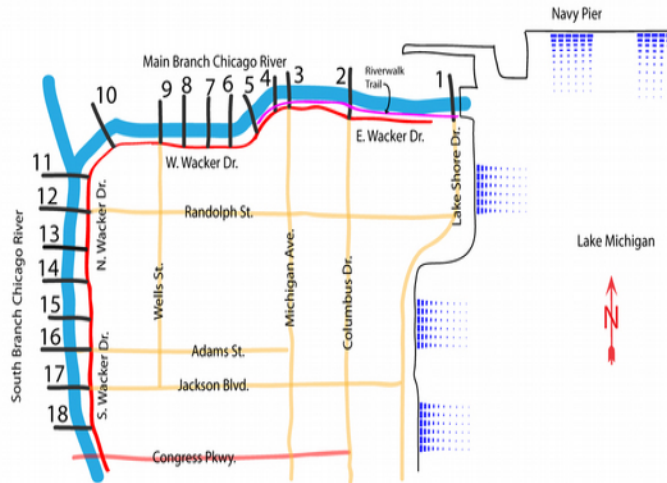
The long arm (bridge leaf) over the river and the short arm (counterweight) is on the bank. The pivot point (trunnion) supports the bridge.

Because the bridge is balanced, it takes a relatively small amount of outside energy to move it. Two 108 HP motors and the gearbox provide the mechanical force necessary to raise and lower the bridge via the rack and pinion gears.

When closed, the bridge is locked in place by heel locks and center locks.



Wells St. gears.



HOW OLD IS THAT BRIDGE?

The current bridges on this part of the Chicago River were built between 1913 and 1984 and represent the three distinct eras of Chicago Type bridges.

The best way to determine the age of the bridge is to look at the bridgehouse.



1913-1930

“BEAUX ARTS”

NON-FLAT ROOF

ORNATE

NUMBER OF

HOUSES: 2 OR 4

(LASALLE, MAP #8)



1930-1950

“ART DECO”

FLAT ROOF

NOT AS ORNATE

NUMBER OF

HOUSES: 2 OR 4

(STATE, MAP # 5)



1950-1984

“MODERN”

FLAT ROOF

PLAIN

NUMBER OF

HOUSES: 1

(DEARBORN, MAP #6)

THE 100 CLUB

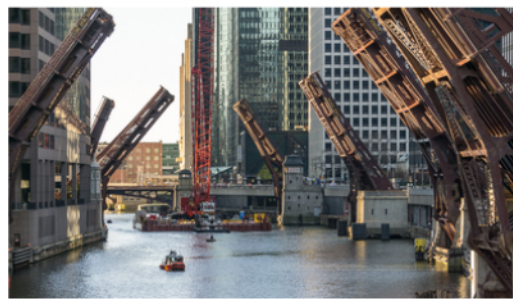
Three South Branch Loop bridges have been in service for 100 years. Find them at Lake St, Washington Blvd, and Jackson Blvd.



*Left, Jackson Blvd - 100 years (Map #17);
Center, Lake St - 100 years (Map #11)
Right, Washington Blvd - 103 years (Map#13)*

ADDITIONAL INFORMATION:

WWW.CHICAGOLOOPBRIDGES.COM



South Branch bridges opened for construction crane

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TOURING THE CHICAGO LOOP BRIDGES



Boats sailing toward Lake Michigan - looking west from Dearborn St bridge (Map # 6)

BRIEF HISTORY

Chicago started its life as a busy water route from Buffalo, NY to the Mississippi River. Movable bridges were needed to handle both land and water traffic.

1840-1854: The floating swing bridge was the first successful movable bridge type built. These bridges were hard to move and easily destroyed in flooding.

1854-1890: The next type of bridge was the center pier swing bridge. These bridges worked well until the boats grew large enough that the center pier obstructed navigation.

The search for the “next” movable bridge type began in the 1890's. In 1900, the Chicago type, trunnion, double leaf, bascule bridge was chosen. There are 16 Chicago type bascules in operation downtown.