BALTIMORE AND OHIO EMPLOYES MAGAZINE

OCTOBER, 1914

The New Bascule Bridge over the Calumet River, Chicago

By Oscar Wacker

Car Distributor, South Chicago

THE new bridge across the Calumet River at South Chicago, was put into service on Monday, September 28th, 1914. Train

F. S. HARVEY, RESIDENT ENGINEER

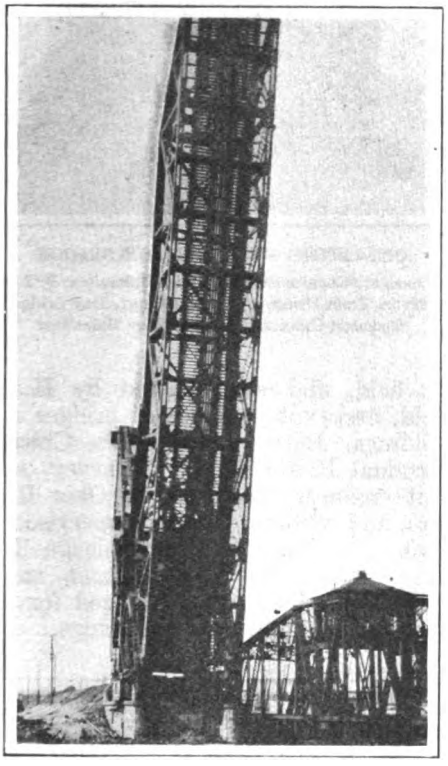
No. 8, the first passenger train to use the the new structure, crossed at 11.55 a.m.

This bridge is the largest single leaf Bascule span in the world, the movable span being 235 feet long. Thirteen hundred and fifty tons of structural steel, one hundred and fifty tons of machinery, and twenty-two hundred tons of concrete counter weight go to make up this monster piece of machinery.

In June, 1906, the City Council of Chicago passed an ordinance requiring the Baltimore & Ohio Railroad to elevate its roadbed over the streets on each side of the Calumet River. This would have necessitated the raising of existing draw span at the Calumet River, but in January, 1910, the War Department of the United States Government ordered the railroads crossing the Calumet River at this point to provide a better channel for the passage of boats. A clear channel of 140 feet was demanded in place of the old channel of eighty-five feet. This order, of course, made necessary the construction of an entirely new bridge.

H. A. FIELD, ASSISTANT ENGINEER OF BRIDGES AND BUILDINGS

There existed at the crossing in 1910 three draw spans which carried the tracks of the Baltimore & Ohio, L. S. & M. S. and the P. F. W. & C., respectively. These bridges, when opened, only cleared each other at the ends by a few inches. The method of building the new bridges, therefore, had to be carefully worked out in order that traffic over the old bridges should not be interrupted.

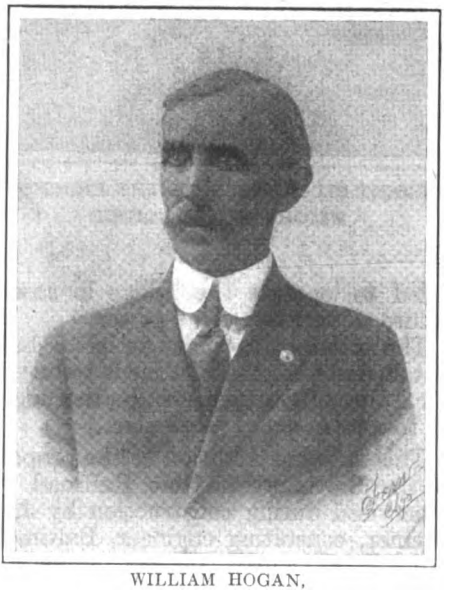


COLOSSAL IN SIZE, THIS BASCULE BRIDGE HAS THE PRECISION OF FINE WATCH WORKS
(Photo by Wegener)

The work on the foundations of the Baltimore & Ohio bridge was started in July, 1911, and completed the following spring. These foundations consist of twelve foot concrete cylinders, connected at the top by reinforced concrete girders, and which extend to the solid rock at a depth of about seventy feet below the surface of the water.

The erection of the superstructure was started in July, 1912, and was completed in the spring of 1913. The bridge was erected in the open position, and lowered after completion. As an example of the accuracy with which the work was done in the shop and in the field,

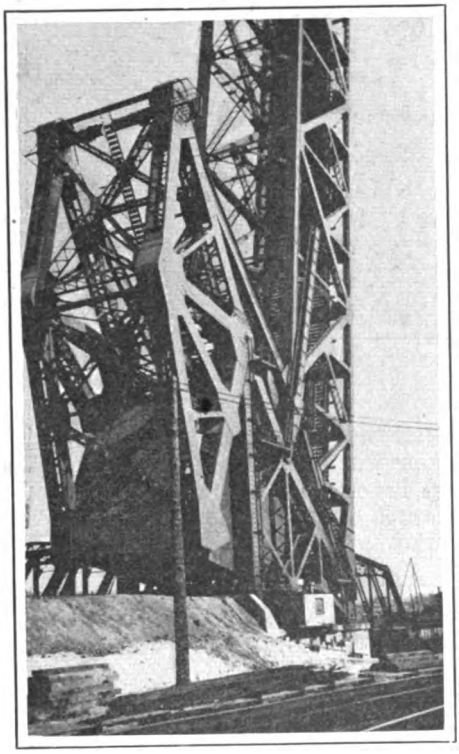
W. F. BOOTH, ASSISTANT TRAINMASTER
SOUTH CHICAGO



WILLIAM HOGAN,
SUPERVISOR OF TRACK AND EQUIPMENT

it should be noted that measurements taken at the time the bridge was first lowered, showed that it was only one quarter of an inch out of line at the extreme end.

The bridge is electrically operated with two 140 horse power alternating current motors furnishing the power. A thirty-five horse power gasoline engine is provided to operate the bridge in case of failure of the electrical power.



CEMENT BLOCKS BALANCE THE ENORMOUS WEIGHT OF THE BRIDGE

The interlocking plant which is being installed at the present time is to be electrical throughout, and will be thoroughly up to date in every particular.

This valuable addition to the property of the Baltimore & Ohio Railroad was supervised during construction by J. E. Greiner, consulting engineer, Baltimore, Md. L. G. Curtis, district engineer at Chicago, had direct charge of the work in the field, and was assisted by H. A. Field, assistant engineer of bridges and buildings, Baltimore & Ohio Chicago Terminal Railroad, F. S. Harvey, resident engineer, Baltimore & Ohio Railroad, and William Hogan, supervisor of track, Baltimore & Ohio Chicago Terminal Railroad. The assistant trainmaster, W. F. Booth, arranged for the first train to pass over this bridge.

OPERATING TOWER AT THE BRIDGE

Left to right, GEORGE SEIFERT, Chief Maintainer; F. J. VAN HYDE, Train Director; CHARLES GRAY, Day Bridge Operator; CHARLES MCCARTY, Day Maintainer

VIEW OF OLD AND NEW BRIDGES

THE WORLD'S WORK

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A HISTORY OF OUR TIME

GARDEN CITY NEW YORK
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discharges it back into the street, while the cleaned air circulates through the car.

An obvious merit of this system of ventilation is that it utilizes to the best advantage the forward motion of the car to create a current of air — a much more effective method than the use of the overhead ventilators for this purpose.

LARGEST SINGLE-LEAF BASCULE BRIDGE

THE longest and heaviest single leaf bascule bridge in the world has recently been built for the Baltimore & Ohio Railroad across the Calumet River in Chicago. This bridge is 235 feet long, and weighs more than 4,000,000 pounds. It is counterbalanced by a counterweight that consists of a huge block that contains 1,100 cubic yards of concrete.

The bridge is so designed that it is perfectly balanced in any position. All that the machinery operating it has to do is to overcome the friction in the bearings on which the structure rests. Electric power is used for the operation. The net weight of the steelwork, or superstructure, is estimated to be 3,000,000 pounds.

THE BASCULE BRIDGE OVER THE CALUMET RIVER IN CHICAGO. IT IS 235 FEET LONG, BUT IT IS RAISED AND LOWERED BY THROWING A SWITCH THAT CONTROLS AN ELECTRIC CONNECTION. THIS BRIDGE CARRIES TWO RAILROAD TRACKS; THE PROJECTING ENDS OF THE RAILS SHOW AT THE TOP OF THE PICTURE