

SCIENTIFIC AMERICAN

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A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

Vol. LXV.—No. 11.
ESTABLISHED 1845

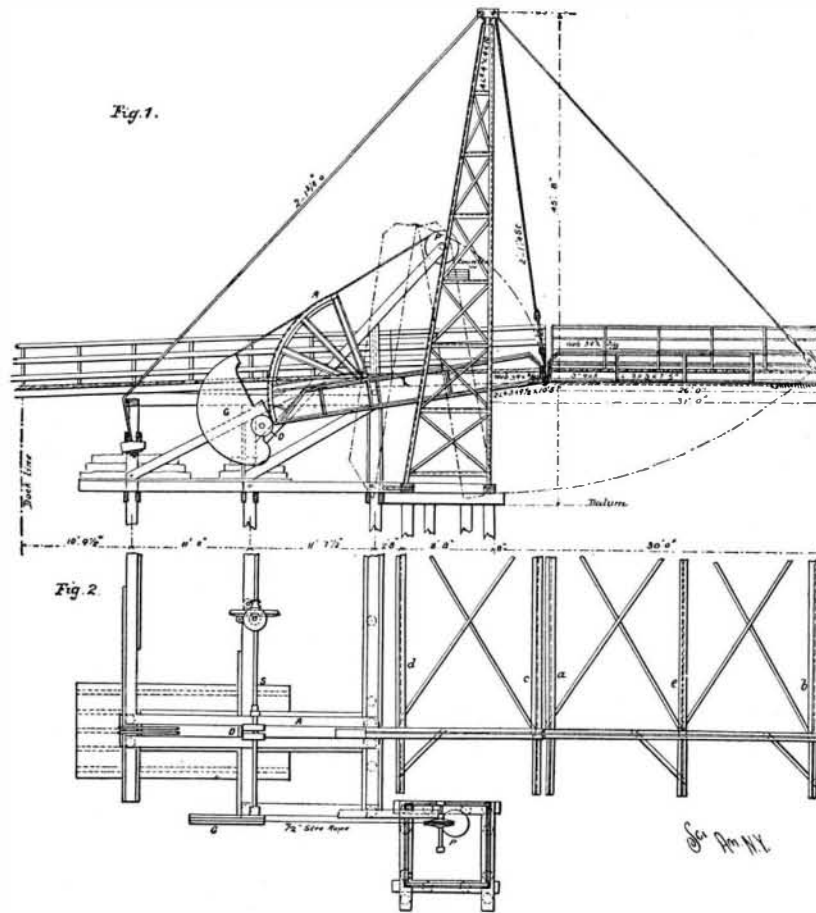
NEW YORK, SEPTEMBER 12, 1891.

\$3.00 A YEAR.
WEEKLY.

A NEW TYPE OF FOLDING BRIDGE.

The bridge shown in the illustrations has been recently erected over the north branch canal at Weed Street, Chicago, and is designated by the Board of Public Works of that city as "an entirely new type of draw or lift bridge." Chicago has sixty-one bridges within its limits, fifty-three crossing the Chicago River and its branches, five crossing the Calumet River, and three the canal, but all of them have heretofore been pivot bridges, supported on a center pier standing in the middle of the stream, and dividing the river into two channels, thus reducing its navigable capacity. The construction shown affords a clear passageway for vessels in the center of the stream where the water is deepest, and gives unobstructed dock privileges up to the street line.

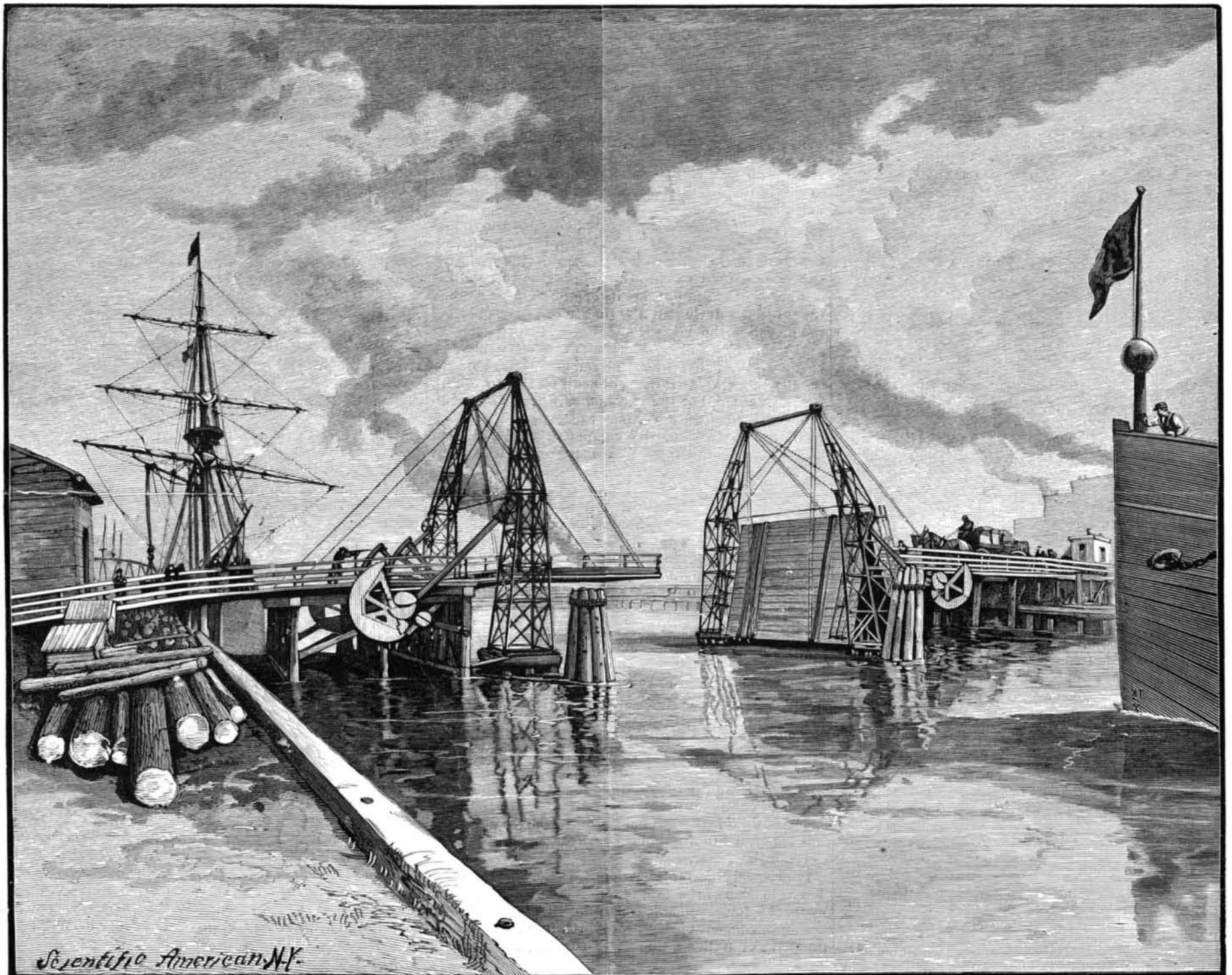
The width of the river between dock lines at the bridge site is 150 feet and the clear opening left for vessels by the bridge is 62 feet. As seen by the drawings, each half consists of two sections of girders supporting the floor, hinged together at their points of junction and suspended from the tower by tie rods at the points of junction and the ends of the outer girder sections. When open, the floor assumes the position shown by dotted lines in Fig. 1, and at one side in the perspective view, and not only is the space between piers free for the passage of vessels, but the raised floors form effective guard gates against accidents to the highway travel. To counterbalance the power



required to open or close the bridge, a weight is suspended in each tower, the wire rope from said counterweights passing over the pulley, P, and thence to cams, C, which are attached to the horizontal shaft, on which is also the drum, D, which operates the structure in connection with the arcs, A, which form a part of inner or land girder section, by means of wire ropes.

The mechanical power required to operate the structure varies at every different position which the girder assumes during the opening or closing process. The cams cause the weights to exert the variable power required for a perfect counterbalance by giving the pull of the wire ropes a variable leverage about the horizontal shaft. By the aid of this device, one man power applied by the ordinary lever attached to the vertical shaft and geared into a horizontal shaft to which the drum is attached, is sufficient to easily operate each half of the structure.

This construction is said to be less expensive than the ordinary style of draw bridge. The cost of the bridge entire, from dock line to dock line, was about \$16,000. The bridge is the invention of Mr. William Harmon, manager of the Chicago Towing Company, and the bridge was designed and constructed by Messrs. Shailer & Schniglaue, engineers and contractors, of Chicago, who control the patents. The bridge was tested by the city engineer and opened for traffic April 18, 1891.



A NEW FOLDING BRIDGE, CHICAGO.