

(No Model.)

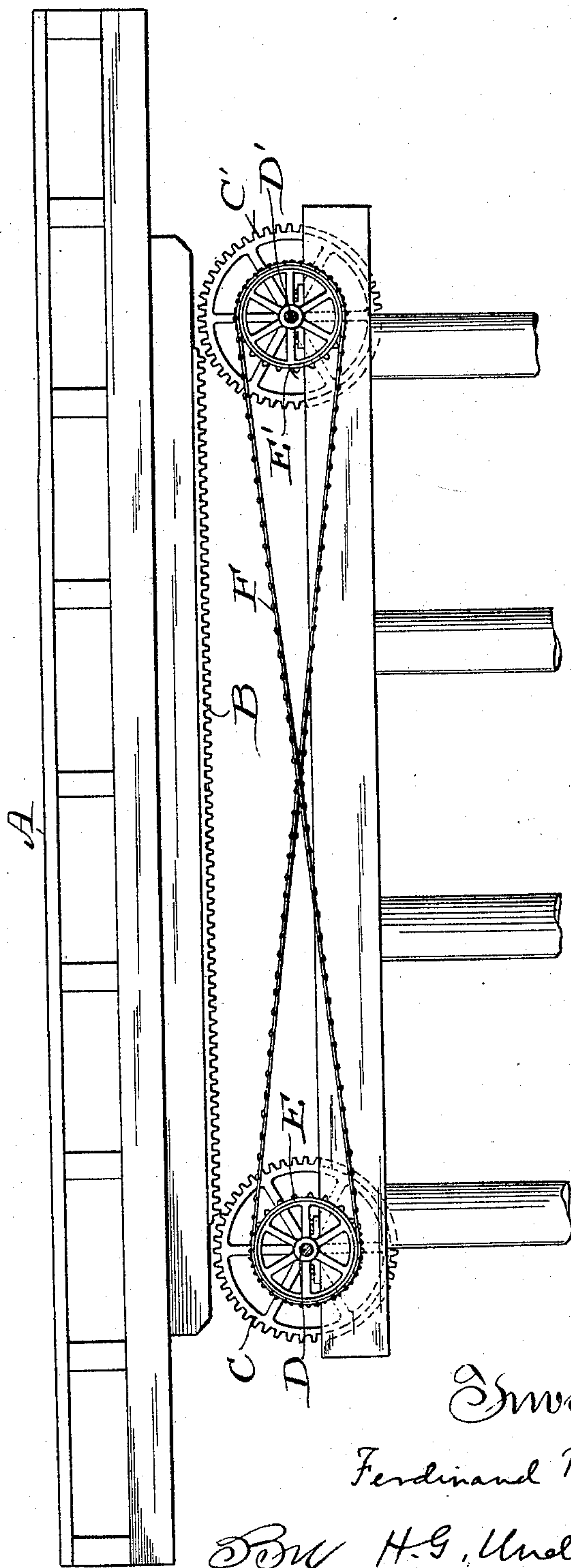
2 Sheets—Sheet 1.

F. RAASCH.  
BRIDGE GATE.

No. 585,701.

Patented July 6, 1897.

*Fig. 1,*



*Witnesses:*  
*Geo. W. Young,*  
*A. E. Oliphant*

*Inventor:*  
*Ferdinand Raasch*  
*By H. G. Underwood*  
*Attorneys*

(No Model.)

2 Sheets—Sheet 2.

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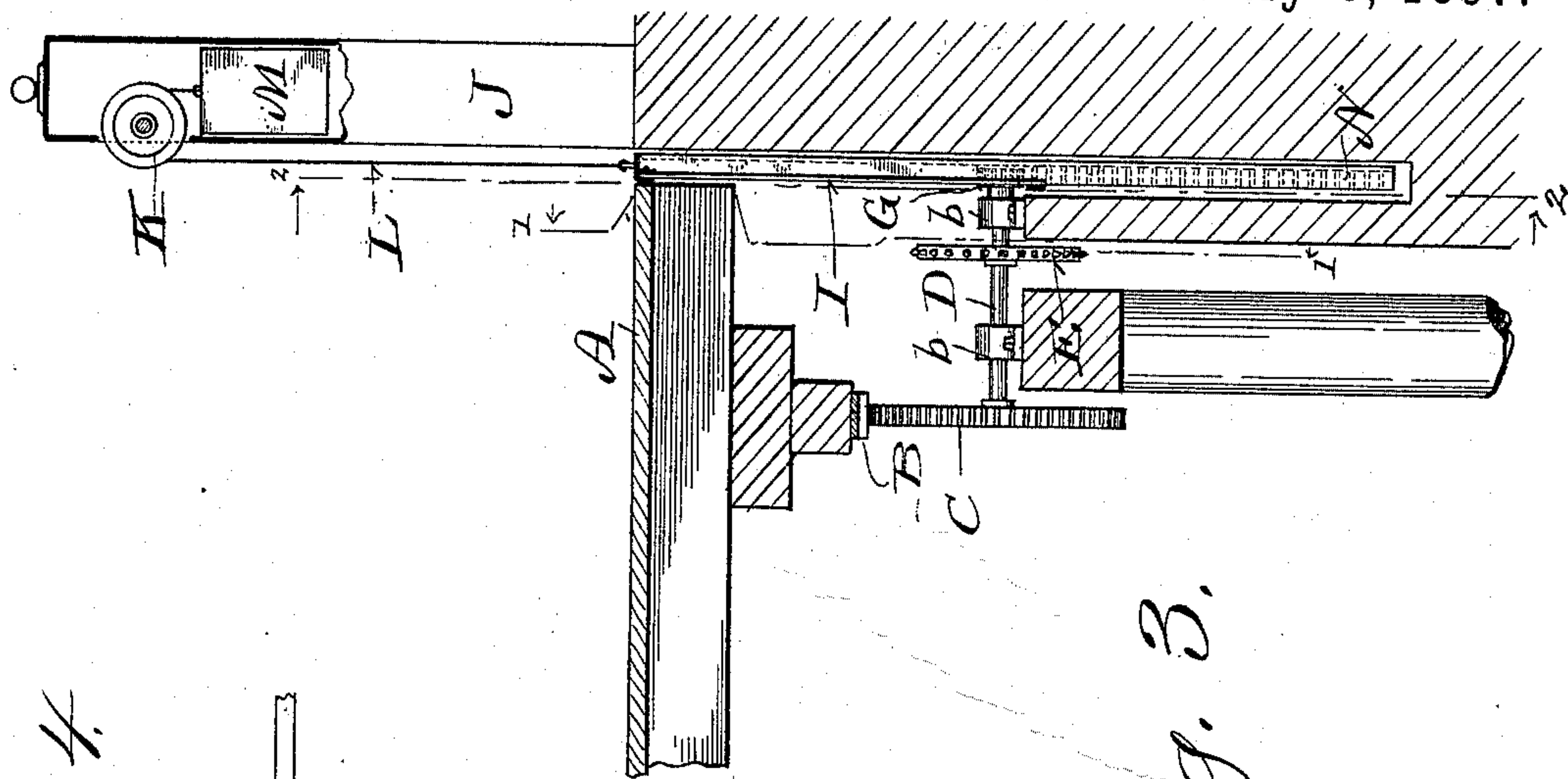


Fig. 3.

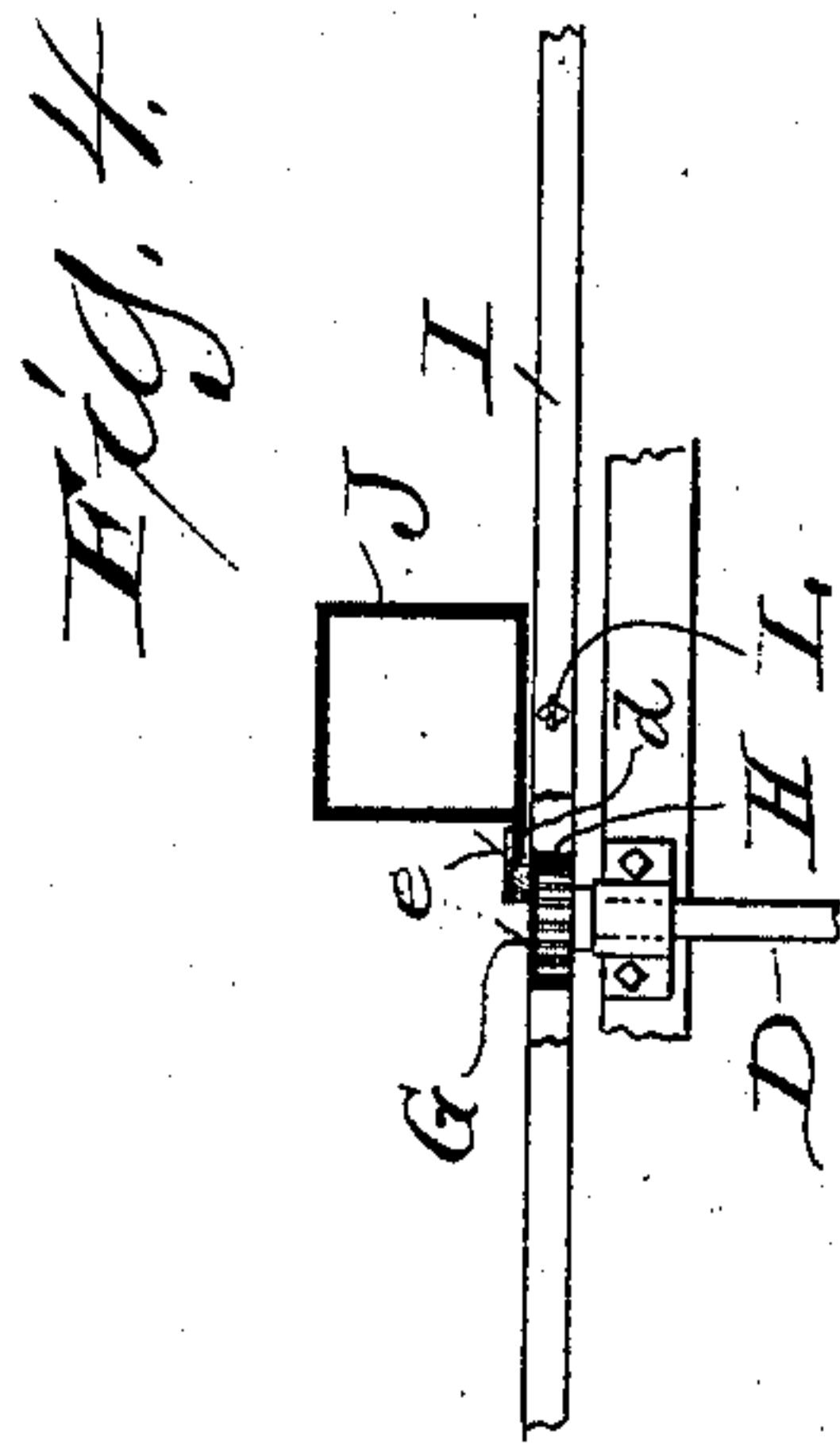
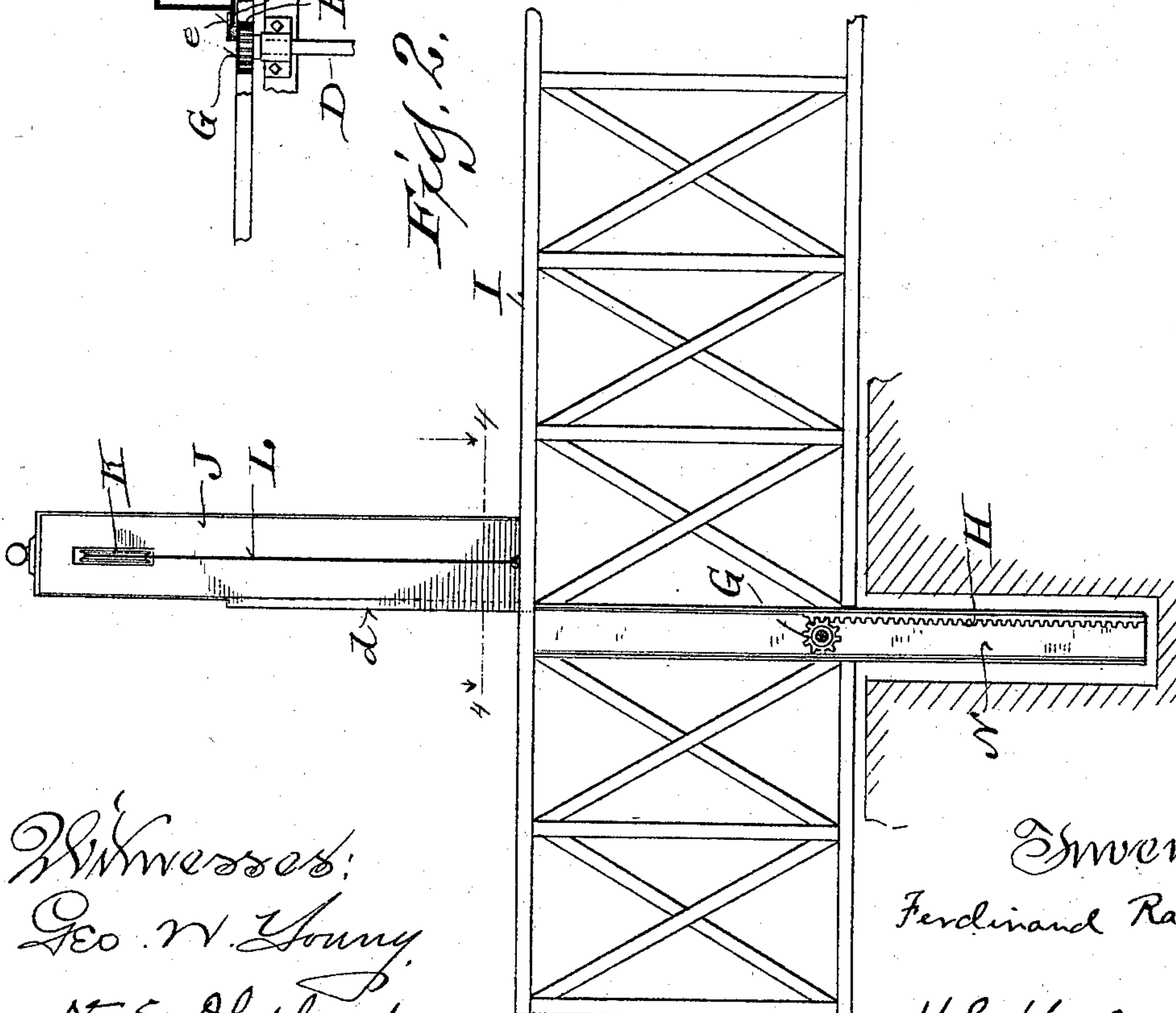


Fig. 4.



Feb. 2.

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# UNITED STATES PATENT OFFICE.

FERDINAND RAASCH, OF MILWAUKEE, WISCONSIN.

## BRIDGE-GATE.

SPECIFICATION forming part of Letters Patent No. 585,701, dated July 6, 1897.

Application filed August 17, 1896. Serial No. 602,950. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND RAASCH, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Bridge-Gates; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to improve the construction and operation of that class of gates employed as barriers at the approaches to swing-bridges; and it consists in certain structural peculiarities hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents an end view of a swing-bridge and a portion of a gate-operating mechanism embodying my improvements, the view being indicated by line 1 1 in Fig. 3; Fig. 2, a view indicated by line 2 2 in said Fig. 3, illustrating other features of said mechanism; Fig. 3, a view showing a portion of the bridge and an approach thereto in longitudinal section with the gate and certain features of the operating mechanism in elevation, and Fig. 4 a detail horizontal section indicated by line 4 4 in Fig. 2.

Referring by letter to the drawings, A represents one end of a swing-bridge provided with a depending transverse rack B for the engagement of spur-wheels C C', fast to shafts D D', having their bearings b supported beneath the bridge independent of the latter. Sprocket-wheels E E', fast on the shafts D D', are connected by a crossed drive-chain F, that extends in the same direction as the rack B, depending from said bridge.

A pinion G is in rigid connection with each of the shafts D D', which mesh with vertical racks H, in rigid connection with a gate I, parallel to an abutment of the bridge, the top of the gate being flush with the surface when said bridge is closed. Hollow posts J are arranged on the bridge-abutments, and mounted in the slotted upper end of each post is a sheave K for a flexible connection L, such as a cord or chain, for the gate and a counterweight M, the latter being contained in said post.

When the bridge is swung open, the rack B is engaged with one or the other of spur-wheels C C', and both shafts D D' are rotated as a result of the crossed drive-chain F work-

ing on the sprocket-wheels E E', whereby the pinions G G' are operated in connection with the racks H to elevate the gate I, the counterweights M serving to hold said gate in elevated position. The bridge being swung back, the operation above described is reversed and the gate run down. Whether the bridge be swung in one direction or the other to open or close, the crossed drive-chain serves as a means for conveying the same power to both ends of the gate at the same time.

The mechanism above specified is the same at both ends of the bridge, and the operation of raising and lowering the gates is the same whether said bridge be swung on an arc of ninety or one hundred and eighty degrees.

The racks H are set in channel-bars N, that constitute parts of the gate and extend some distance below the same, each gate being preferably organized as a barrier for a roadway and sidewalk approach to the bridge.

Each of the posts J is provided with a corner-flange d, overlapped by a flange e on a gate, these flanges operating to prevent sway of said gate as it is raised and lowered.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of a swing-bridge having each of its ends provided with a transverse depending rack, shafts in bearings supported beneath the bridge independent of the latter, a spur-wheel on each shaft in the path of the bridge-racks, a sprocket-wheel on each shaft, a crossed drive-chain connecting the sprocket-wheel of one shaft with that of another, vertically-movable gates parallel to the bridge-abutments and provided with depending channel-bars, racks set in the channel-bars, pinions on the aforesaid shafts in mesh with the racks, hollow posts on said abutments, counterweights in the posts, and sheave-supported flexible connections for the gates and counterweights.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

F. RAASCH.

Witnesses:

N. E. OLIPHANT,  
B. C. ROLOFF.