

2 Sheets—Sheet 1.

No. 501,523.

Patented July 18, 1893.

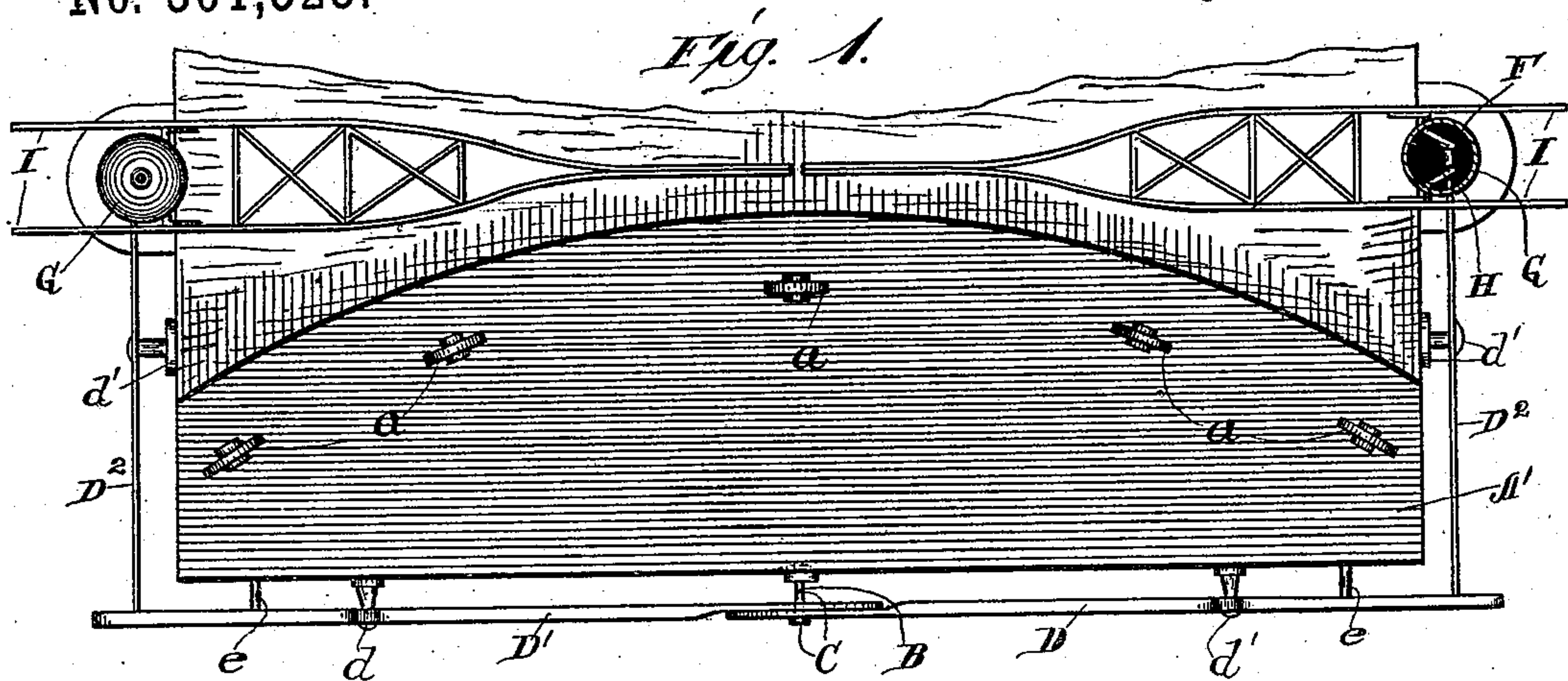
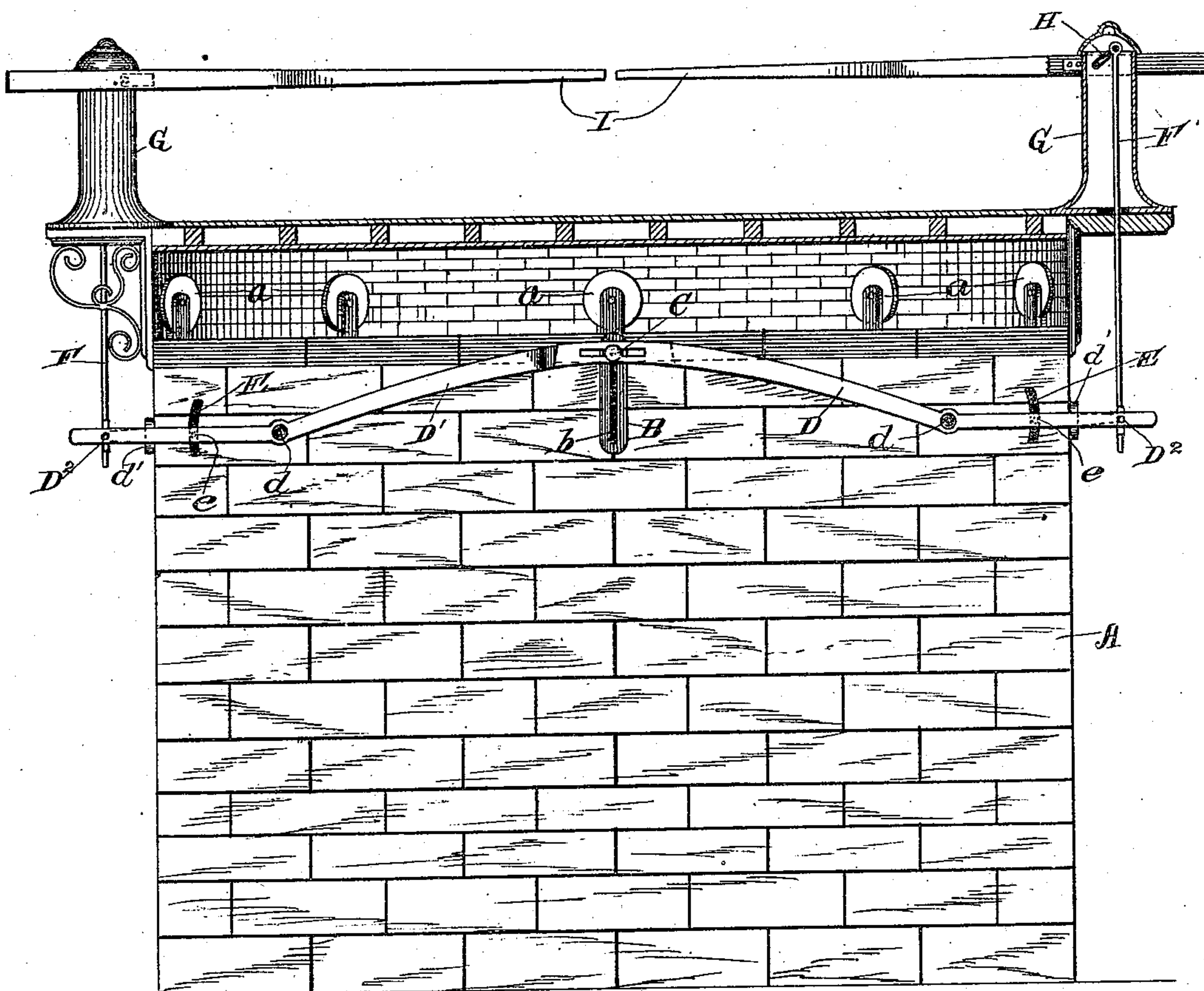


Fig. 2.



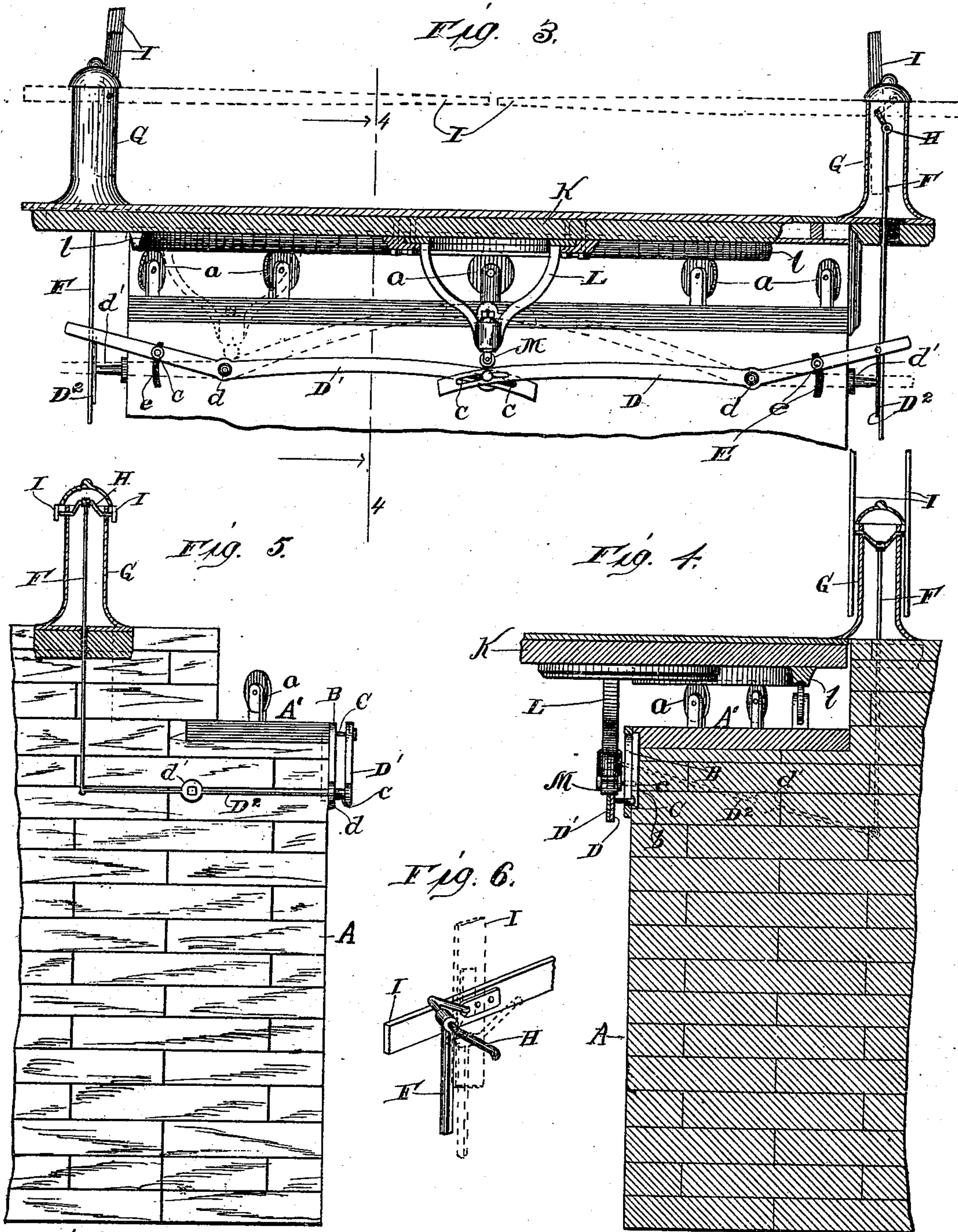
Witnesses
Chas. E. Gordon
S. S. Alexander

Inventor:
Henry Meyer
By Chas. C. Kilburn
Atty.

H. MEYER.
BRIDGE GATE.

No. 501,523.

Patented July 18, 1893.



Witnesses
Chas. E. Gordon.
S. S. Alexander

Inventor:
Henry Meyer
By Chas. C. Tillman
Atty

UNITED STATES PATENT OFFICE.

HENRY MEYER, OF CHICAGO, ILLINOIS.

BRIDGE-GATE.

SPECIFICATION forming part of Letters Patent No. 501,523, dated July 18, 1893.

Application filed February 20, 1893. Serial No. 463,017. (No model.)

To all whom it may concern:

Be it known that I, HENRY MEYER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bridge-Gates, of which the following is a specification.

This invention relates to improvements in gates for draw-bridges and especially to that class of such gates, in which the operation of closing them is done automatically by the action or movement of the bridge; and it consists in certain peculiarities of the construction, novel arrangement and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are first, to provide a bridge-gate which shall be strong and durable, simple and inexpensive in construction, yet effective in operation; and second, such a gate which will automatically close and open by reason of the movement of the bridge, and will be closed or opened thereby when the bridge is turned in either direction.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1, is a plan view, partly in section, of a portion of one of the abutments or approaches to the bridge, showing the operating mechanisms and the gates closed or lowered. Fig. 2, is a view in front elevation, partly in section thereof. Fig. 3, is a view in front elevation, partly in section, of a part of the abutment or approach to the bridge, showing the bridge in position for traffic or travel, and the gates raised. Fig. 4, is a sectional view looking in the direction of the arrow, and taken on line 4, 4, of Fig. 3, showing the parts in position as they appear when the gates are raised and the bridge is open for travel. Fig. 5, is a like view looking in the same direction, and illustrating the position of the parts when the gates are lowered, and Fig. 6, is a detail perspective view of a portion of one of the gate-bars and its operating lever and connecting rod.

Similar letters refer to like parts throughout the different views of the drawings.

A, represents the abutment of the bridge, which is formed with an off-set or step A', upon which are placed a number of wheels or rollers *a*, to facilitate the movement of the bridge in its turnings.

To the middle of the abutment A, and at the upper portion thereof is secured vertically a guide-piece B, which is formed with a longitudinal slot *b*, within which operates a securing-pin C, which is passed through suitable openings and usually slots *c*, in the cam-levers D, and D', which levers are fulcrumed at suitable points, as at *d*, to the face of the abutment.

Near each side of the abutment, and to the face or front thereof, is provided guide-ways E, in which operate suitable pins *e*, which are secured to the levers near their outer ends.

As will be seen in Figs. 2 and 3 of the drawings, the levers D, and D', are formed with a slight upward curve or bend forming a segment of a circle. Near the outer end of each of the levers D, and D', is secured a lever D², which extends at a right angle from the cam-levers along the sides of the abutment, and are fulcrumed thereto, as at *d'*, and are pivotally connected at their outer ends to the rods F, which extend vertically into the hollow posts G, which are located on the upper surface of the abutment, and near its sides. The rods F, are secured to the bell-crank-levers H, which have their bearings in the posts G, and have secured to their ends the gate-bars I, which as shown in the drawings are preferably bifurcated, so as to stride the posts.

To the lower surface of the bridge K, and near its end is secured a circular grooved track *l*, within which the wheels or rollers *a*, travel. At a suitable point to the rear of the track *l*, and to the lower surface of the bridge is secured a bracket L, in the lower portion of which is journaled a roller or wheel M, which is adapted to travel on the cam-levers.

The operation of my device is simple and as follows: The various parts of my invention are located and arranged as before set forth, and when the bridge is open for travel the parts will assume the positions indicated by continuous lines in Fig. 3. As soon as the bridge which is mounted on a pivot in its central portion and midway between the abut-

ments or approaches begins to turn, the roller M, on the bracket L, will glide over the upper surface of one of the cam-levers until it shall have reached the fulcrum point thereof, when
 5 by reason of the fact that the weight of the bridge is removed from the levers, and that the gates or bars I, over-balance the weight thereof, the said bars will be gently lowered to the horizontal position, indicated by dotted
 10 lines in Fig. 3, and will thus close the passage-way to the bridge. As soon as the roller M, on the bracket L, is passed from either of the cam-levers, it is obvious that said levers will be raised to the position indicated by dotted
 15 lines in Fig. 3, and by continuous lines in Fig. 2, and that when in such a position the bridge is again turned that the roller M, will again impinge with one of the cam-levers and through its connecting pin C, and the
 20 guide-piece B, will cause the levers to be lowered to the position indicated by continuous lines in Fig. 3, and the bars I, which are connected as before stated to the bell-crank-levers H, and through the medium of the
 25 rods F, and levers D, to the cam-levers, will be raised to a vertical position, thus opening the passage-way to the bridge for travel.

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

1. In a bridge-gate the combination of a bridge having secured to its lower surface a roller, with two cam-levers, fulcrumed to the abutment and having near their inner ends
 35 longitudinal slots, and at their outer ends the levers D², fulcrumed to the sides of the abutment, the rods F, connected at their lower

ends to the levers D², and at their upper ends to the bell-crank-levers H, the securing-pin C, adapted to connect the cam-levers and to op-
 40 erate within their slots as well as the slot of the guide-piece B, said piece secured to the abutment and having a vertical slot, the bell-crank-levers having the bearings in the posts G, and the bars or gates I, secured to the ends
 45 of the bell-crank-levers, substantially as and for the purpose set forth.

2. In a bridge-gate the combination of a bridge having secured to its lower surface the bracket L, having journaled therein the roller
 50 M, with the levers D, and D', fulcrumed to the abutment, and formed at their inner parts with an upward curve and provided with the slots c, and pins C, and e, to operate in the guide-ways or slots b, and E, respectively,
 55 said guide-ways located on the surface of the abutment, the levers D², secured at one of their ends to the outer portions of the levers D, D', and at their other ends to the rods F, and fulcrumed to the sides of the abutment,
 60 the rod F, connected at their lower ends to the levers D², and at their upper ends to the bell-crank-levers H, the bifurcated bars or gates I, and the bell-crank-levers having their bearings in the posts and connected to said bars
 65 or gates, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand and affixed my seal this 11th day of February, A. D. 1893.

HENRY MEYER. [L. S.]

Witnesses:

CHAS. C. TILLMAN,
 E. A. DUGGAN.