

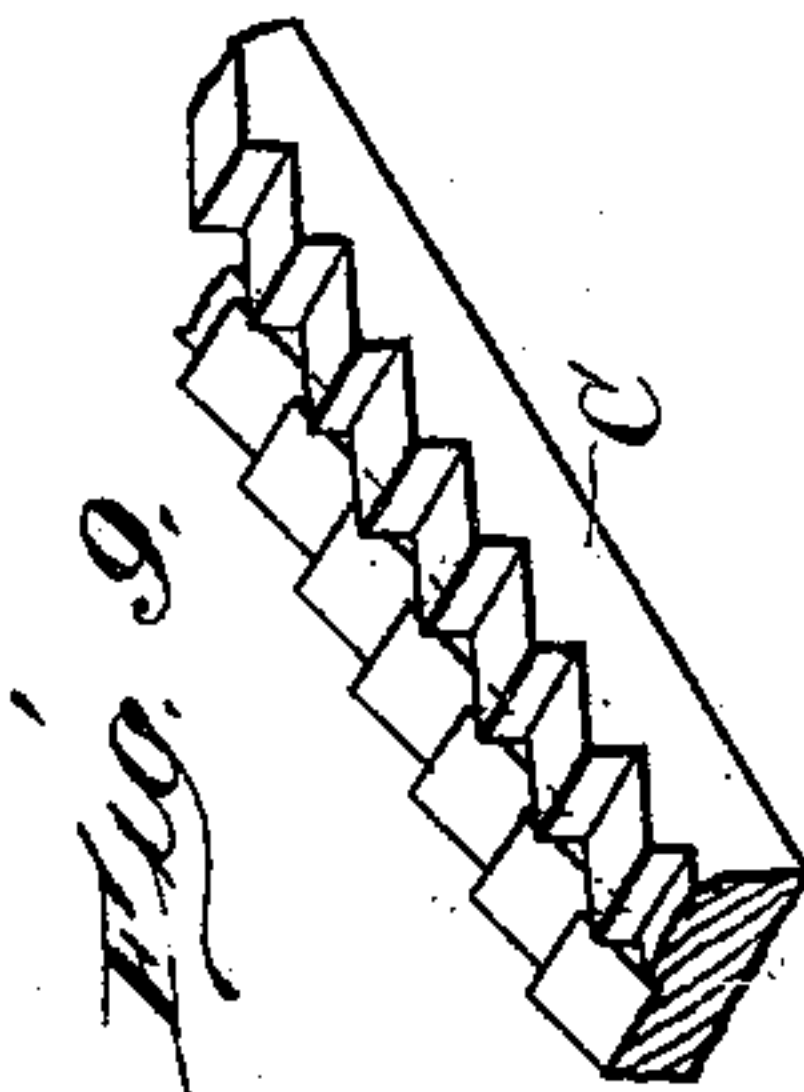
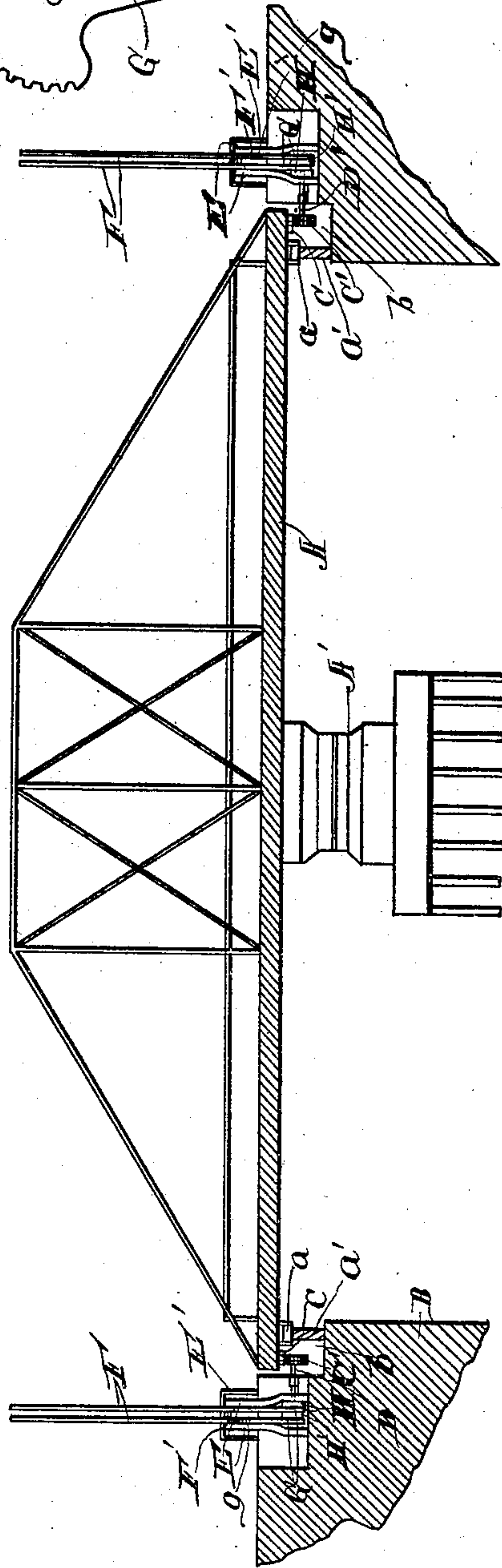
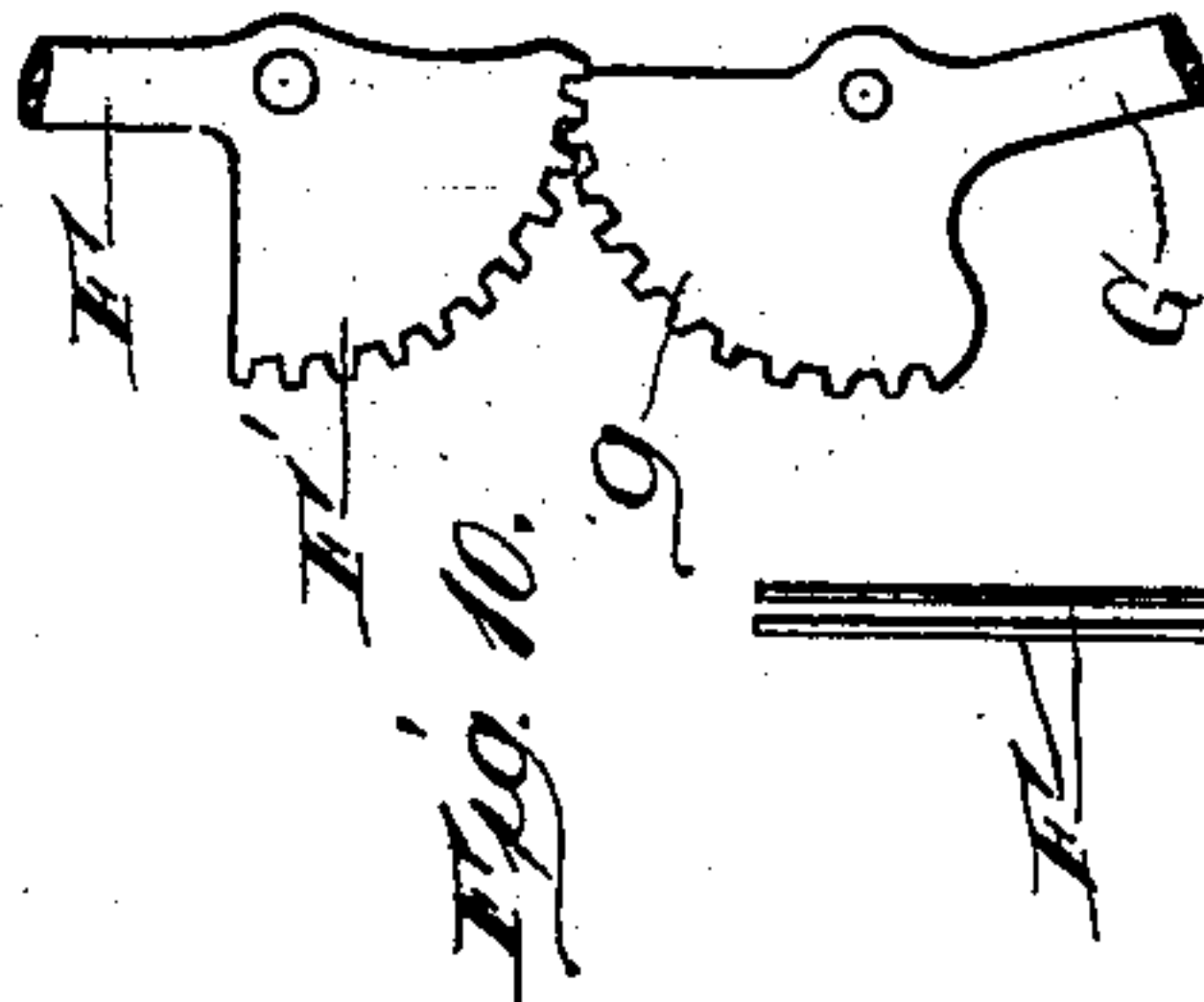
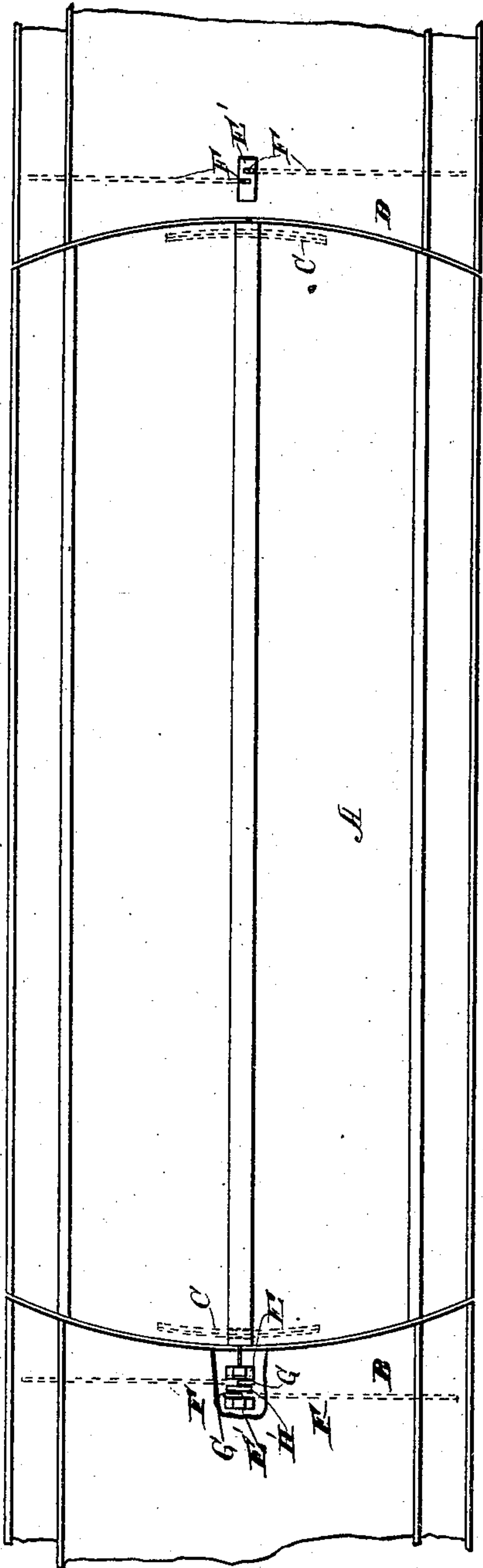
(No Model.)

2 Sheets—Sheet 1.

A. KOHLER.
BRIDGE GATE.

No. 502,975.

Patented Aug. 8, 1893.



Witnesses:

Chas. E. Gorton.

E. A. Duggan.

Inventor:

August Kohler

By Chas. C. Tillman
Atty.

(No Model.)

2 Sheets—Sheet 2.

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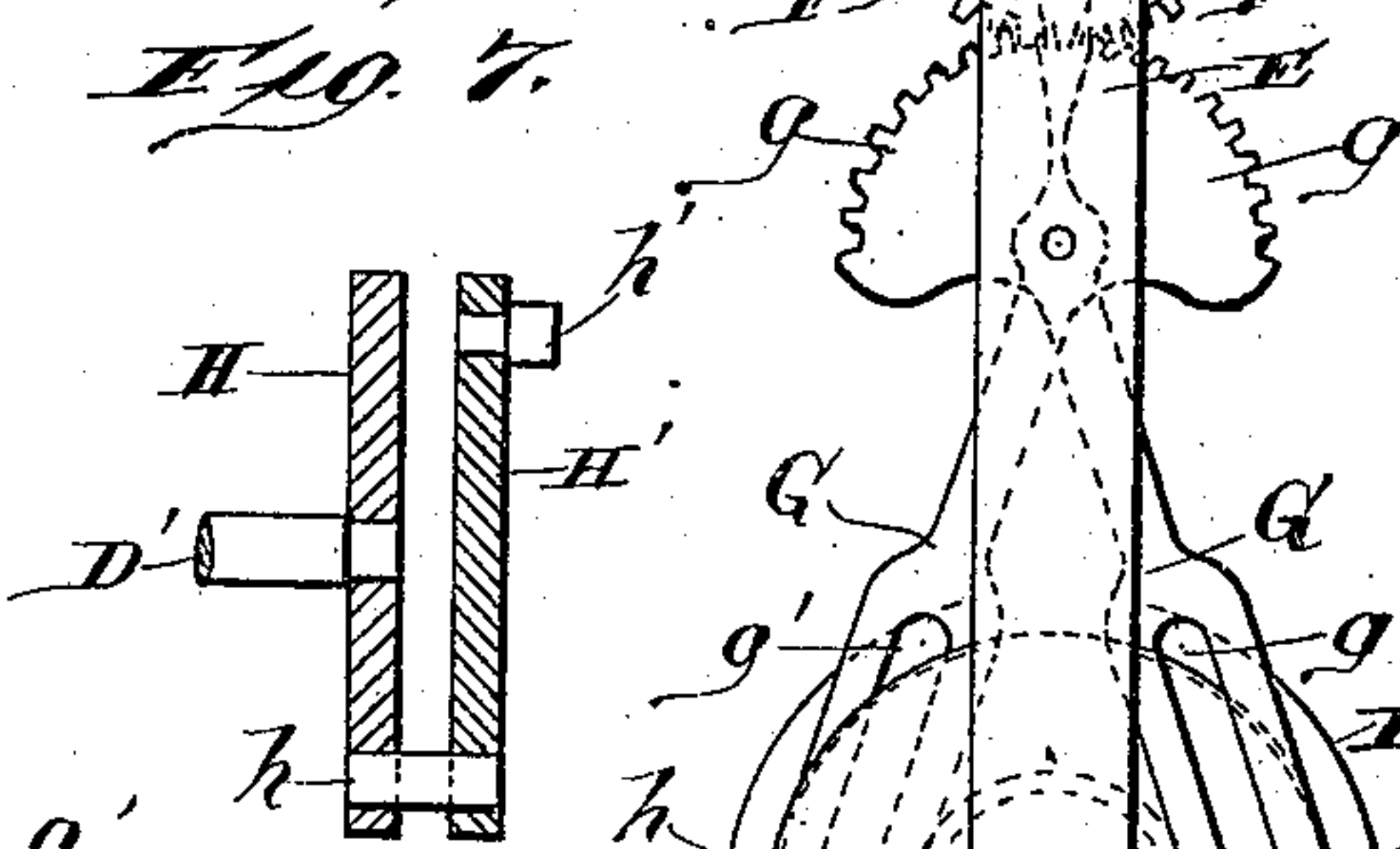
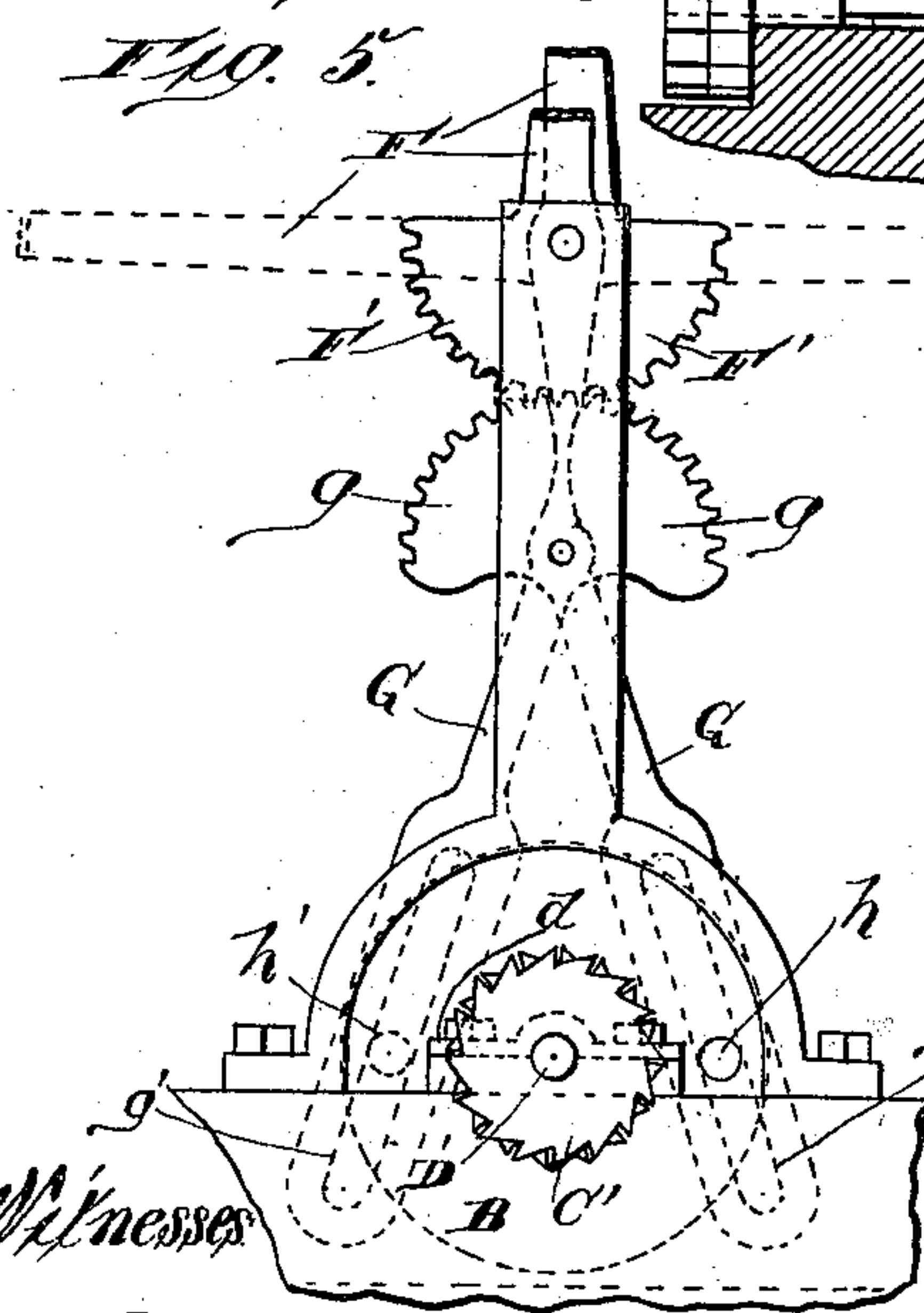
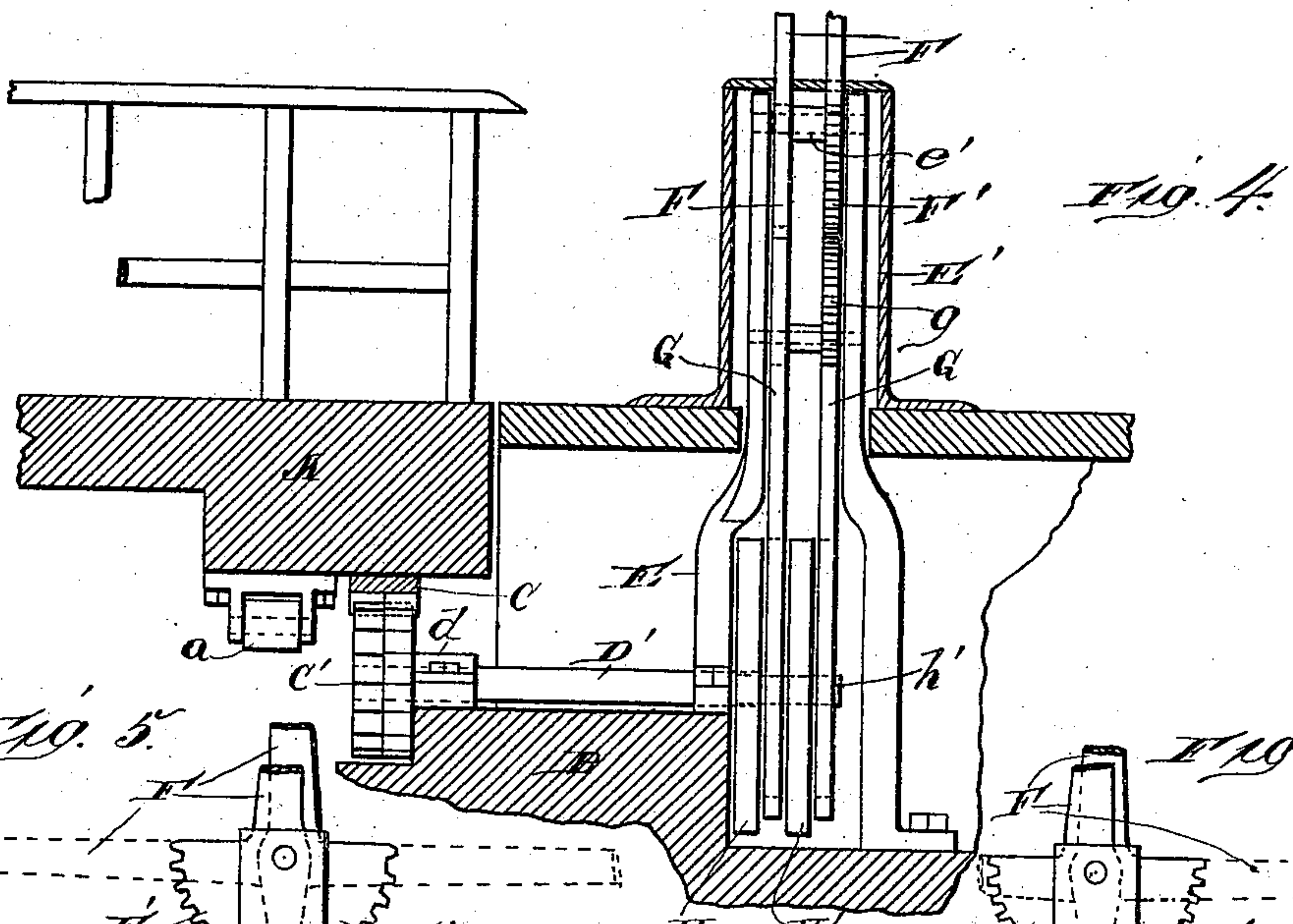
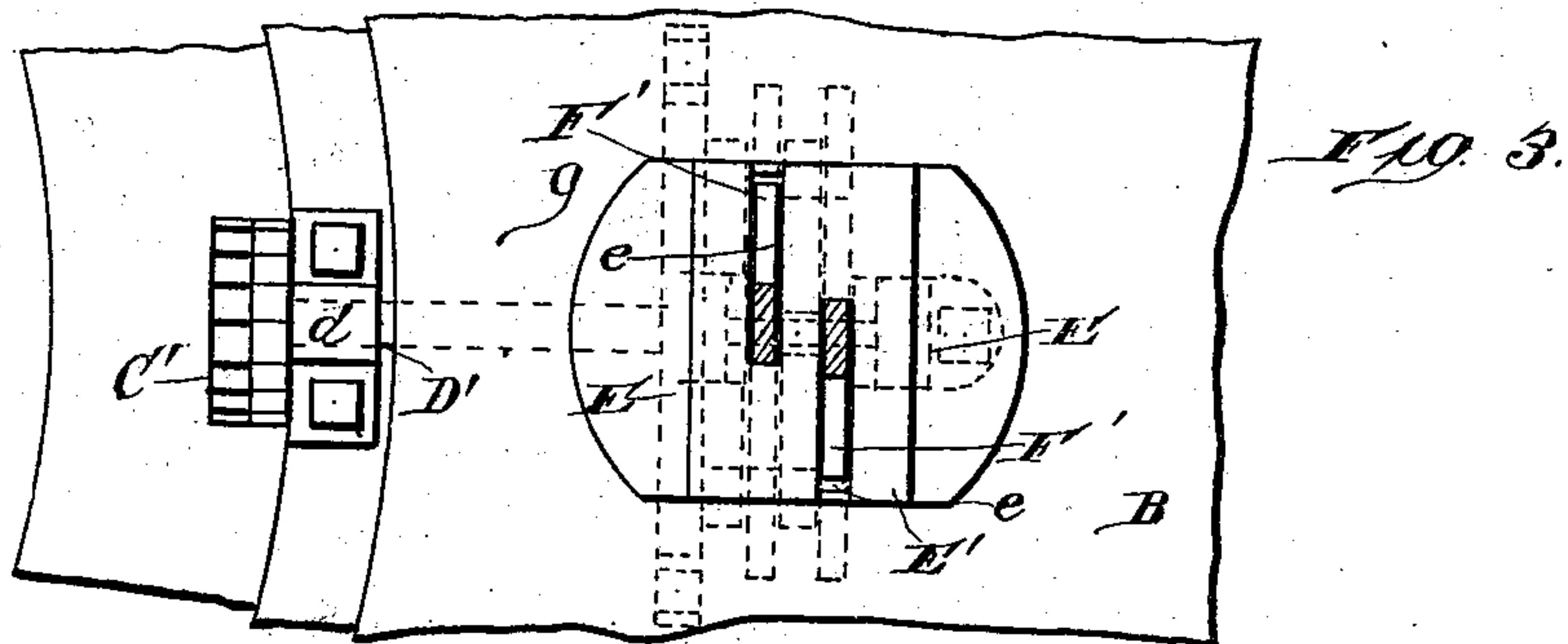
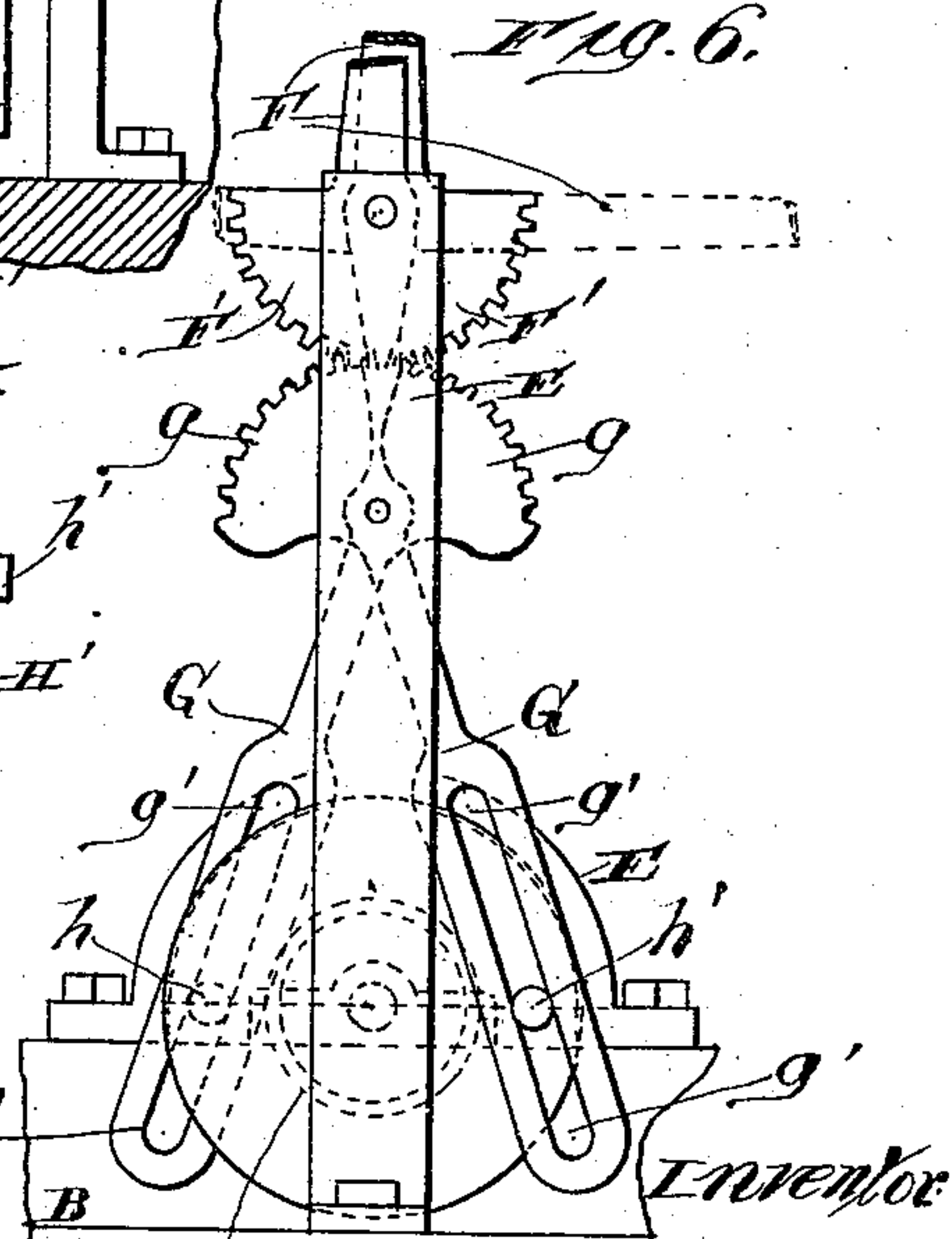
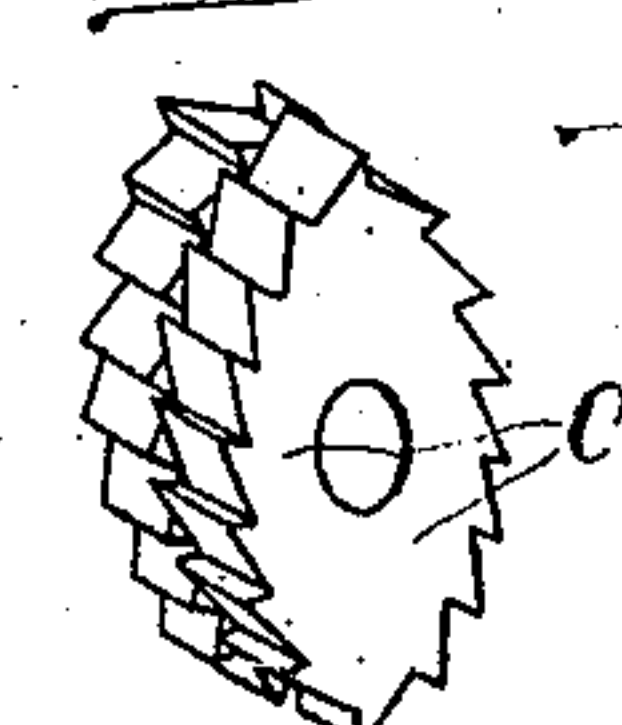


FIG. 8.



Witnesses

Chas. E. Gorton.
C. A. Duggan.

August Kohler

By Chas. C. Gillman

Att'y.

UNITED STATES PATENT OFFICE.

AUGUST KOHLER, OF CHICAGO, ILLINOIS.

BRIDGE-GATE.

SPECIFICATION forming part of Letters Patent No. 502,975, dated August 8, 1893.

Application filed May 19, 1893. Serial No. 474,755. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KOHLER, 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 bridge-gates, and especially to that class of gates, which are automatically raised and lowered by the turning 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 gate, which shall be automatic in its operation, simple and inexpensive in construction, and may be easily attached to draw or turn-bridges of the ordinary construction; and second, such a gate in which the arms or uprights constituting the gate-obstruction, are automatically raised when the bridge is in position for traffic, and lowered when it is turned or closed in a position to allow the passage of vessels in the river or to prevent travel.

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 of a bridge and a portion of the abutments or approaches thereof, with a part of one of said abutments broken away, in order to show the operating mechanism of one of the gates. Fig. 2, is a longitudinal sectional view of the bridge and a portion of the abutments, showing my gates in a raised position. Fig. 3, is a plan view of a portion of one of the abutments, showing the gate-arms in section, their box, or casing, and the ratchet-gear. Fig. 4, is a sectional view of a portion of the bridge and one of the abutments, showing a portion of the gate-arms and their operating mechanism. Fig. 5, is a face view of the supporting brackets or standards for the gate-arms, their operating levers and mechanism. Fig. 6, is a rear view thereof. Fig. 7, is a sectional view of the cam-gears or eccentric wheels for operating the

levers of the gate-arms. Fig. 8, is a perspective view of the right and left ratchet-gear detached from its shaft. Fig. 9, is a perspective view of one of the right and left ratchet-pieces, or bars, detached from the bridge, and Fig. 10, is a face view of portions of one of the gate-arms and its operating lever.

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

A, represents a bridge, which may be made of any suitable size, form, and material, and as usual in the case of draw-bridges, is pivotally surmounted on a pedestal A', at about its middle. Near each end of the bridge are provided friction rollers *a*, which impinge with or roll on suitable tracks or pieces *a'*, secured to the abutments or approaches B, which as shown in Figs. 2 and 3, are formed with a step *b*, or recess. Between the rollers *a*, and the ends of the bridge, and on the lower surface thereof, and transversely therewith, is secured a right and left ratchet-piece C, which piece is adapted to engage with the right and left ratchet-gear C', which is mounted on a suitable shaft D', having its bearing for one end, in a journal-box *d*, located in the abutment, and the bearing for its other portion in the supporting brackets E, for the gate-arms F, and their levers. The brackets or supporting standards E, for the gate-arms, are firmly secured to the abutment, at their lower portions, and are covered at their upper parts by means of a casing or box E', which is provided in its top with suitable slots or openings *e*, through which the gate-arms extend and operate.

As is clearly shown in Fig. 4, of the drawings, the standards or brackets E, extend to near the top of the casing E', and have secured between them on a suitable shaft *e'*, having its bearings in the upper part of said standards, the gate-arms F, which are preferably in the form of bars, and are provided on their lower ends with segmental cogged-gears F', which mesh with correspondingly formed gears *g*, on the upper ends of the operating levers G, which are fulcrumed at a suitable point to the supporting standards E, as is clearly shown in Figs. 4, 5, and 6. The lower portion of each of these levers is provided with longitudinal slots *g'*, within which fit and operate suitable pins or projections *h*,

and h' , on the operating or eccentric wheels H, and H', the former of which is mounted on the opposite end of the shaft D', from the ratchet-gear. The wheel H', is eccentrically
 5 secured to the wheel H, by means of the pin or projection h , which not only serves for this purpose, but also as an engaging connection for the slot g' , in one of the levers G, which is located between said wheels, while the other
 10 lever through its slot, engages with the pin h' , on the outer surface of the wheel H'. It will therefore be understood, that when the bridge is in its normal position, or open for traffic, as shown in Fig. 1, that the gate-arms will
 15 stand in an upright position, and hence will offer no obstruction, but that as soon as the bridge begins to move in either direction in the turning thereof, the ratchet-pieces or bars C, will engage the ratchet-gears C', which
 20 are located on the abutments, as before stated, and will cause the same to revolve, which operation will also turn the wheel H, which is fixed on the shaft D', and through the latter's rigid connection h , with the wheel H', and
 25 their connections with the levers, to raise and lower the same, thereby raising and lowering the gate-arms.

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 at each end a right and left ratchet-piece or bar, with a right and left ratchet-gear to engage said pieces or bars, said gear being mounted on a shaft having its bearings 35 on the abutment, the gate-arms having at their lower ends segmental gears and pivotally secured to a support or frame, the operating levers fulcrumed on said frame and having at their upper portions segmental gears to engage 40 the gears on the gate-arms, and in their lower portions longitudinal slots, and the operating wheels H, and H', having the pins or projections to engage the slots in said levers, substantially as described. 45

2. In a bridge-gate, the combination with the gate-arms F, having the segmental gears F', and pivotally secured at their lower ends to a support, of the levers G, having the segmental gears g , to engage the gears on the 50 gate-arms, the wheels H, and H', eccentrically connected to said levers, and adapted to give them a reciprocating motion, and having means to engage the bridge in its movements, substantially as described.

AUGUST KOHLER.

Witnesses:

CHAS. C. TILLMAN,
 G. A. DUGGAN.